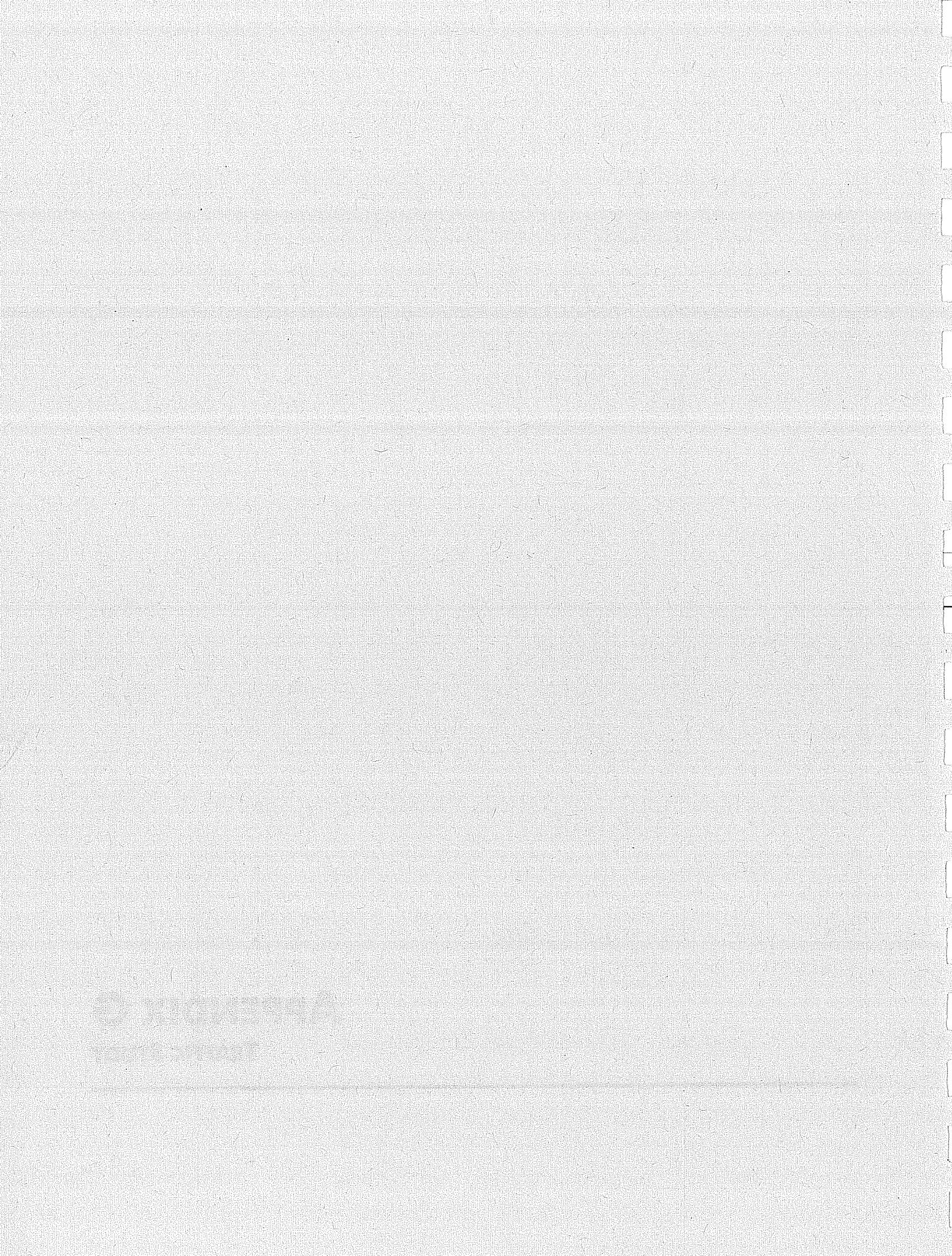


APPENDIX G

TRAFFIC STUDY



**TRAFFIC IMPACT ANALYSIS
FOR THE
RIVENDALE COMMUNITIES TAYLOR ROAD SUBDIVISION
Loomis, California**

Prepared For:

**RIVENDALE COMMUNITIES
1160 North Dutton Avenue # 240
Santa Rosa, CA 95401**

Prepared By:

**kdANDERSON Transportation Engineers
3853 Taylor Road, Suite G
Loomis, CA 95650
(916) 660-1555**

Revised March 15, 2005

Job No. 5896-001

Rivendale Mixed Use.rpt

KD Anderson
Transportation Engineers

**TRAFFIC IMPACT ANALYSIS FOR THE
RIVENDALE COMMUNITIES TAYLOR ROAD SUBDIVISION
Loomis, CA**

TABLE OF CONTENTS

INTRODUCTION.....	1
EXISTING SETTING	1
Study Area Streets	1
Non-Automotive Facilities.....	4
Existing Traffic Volumes.....	4
Levels of Service - Methodologies	6
Existing Levels of Service	7
PROJECT TRAFFIC IMPACTS.....	8
Project Characteristics.....	8
Trip Generation	10
Trip Distribution.....	11
Existing Plus Project - Levels of Service.....	12
CUMULATIVE TRAFFIC IMPACTS	17
Background Traffic Conditions	17
Year 2020 Levels of Service Based on Daily Volumes	17
Year 2020 Levels of Service at Intersections	18
Access Evaluation	20
MITIGATION MEASURES / RECOMMENDATIONS	22
Mitigations for Development of Project.....	22
APPENDIX.....	24

March 15, 2005

KDA

**TRAFFIC IMPACT ANALYSIS FOR
RIVENDALE COMMUNITIES TAYLOR ROAD SUBDIVISION
Loomis, California**

INTRODUCTION

This report summarizes kdANDERSON Transportation Engineers' analysis of traffic impacts associated with development of the **Rivendale Communities Taylor Road Subdivision** project. The proposed project lies on the southeast side of Taylor Road between King Road and Penryn Road in eastern Loomis, as shown in Figure 1. Development of the project entails 49 residential lots, of which 9 lots are intended to include ancillary commercial space along Taylor Road. Access to the site is planned via a new intersection onto Taylor Road, with parking for commercial uses proposed along Taylor Road itself.

The scope of this traffic analysis is intended to conform to Town of Loomis guidelines for projects that are consistent with adopted General Plan land uses. "Existing" traffic conditions have been evaluated through observation of current weekday a.m. and p.m. peak hour traffic volumes at three major intersections in the vicinity of the project. The impacts of the proposed project have been evaluated by estimating probable project trip generation, assigning project trips to the study area street system and superimposing project traffic onto background conditions to determine whether development of this use will result in conditions in excess of the Town of Loomis' minimum Level of Service standards.

Per direction from the Town of Loomis, this study includes analysis of three scenarios: 1) "Existing" Conditions 2) "Existing Plus Project" Conditions and 3) "Cumulative Plus Project" Conditions.

EXISTING SETTING

Study Area Streets

Through discussions with Town of Loomis staff it was determined that this analysis should focus on project access and on impacts to the following four key intersections during the a.m. and p.m. peak hour.

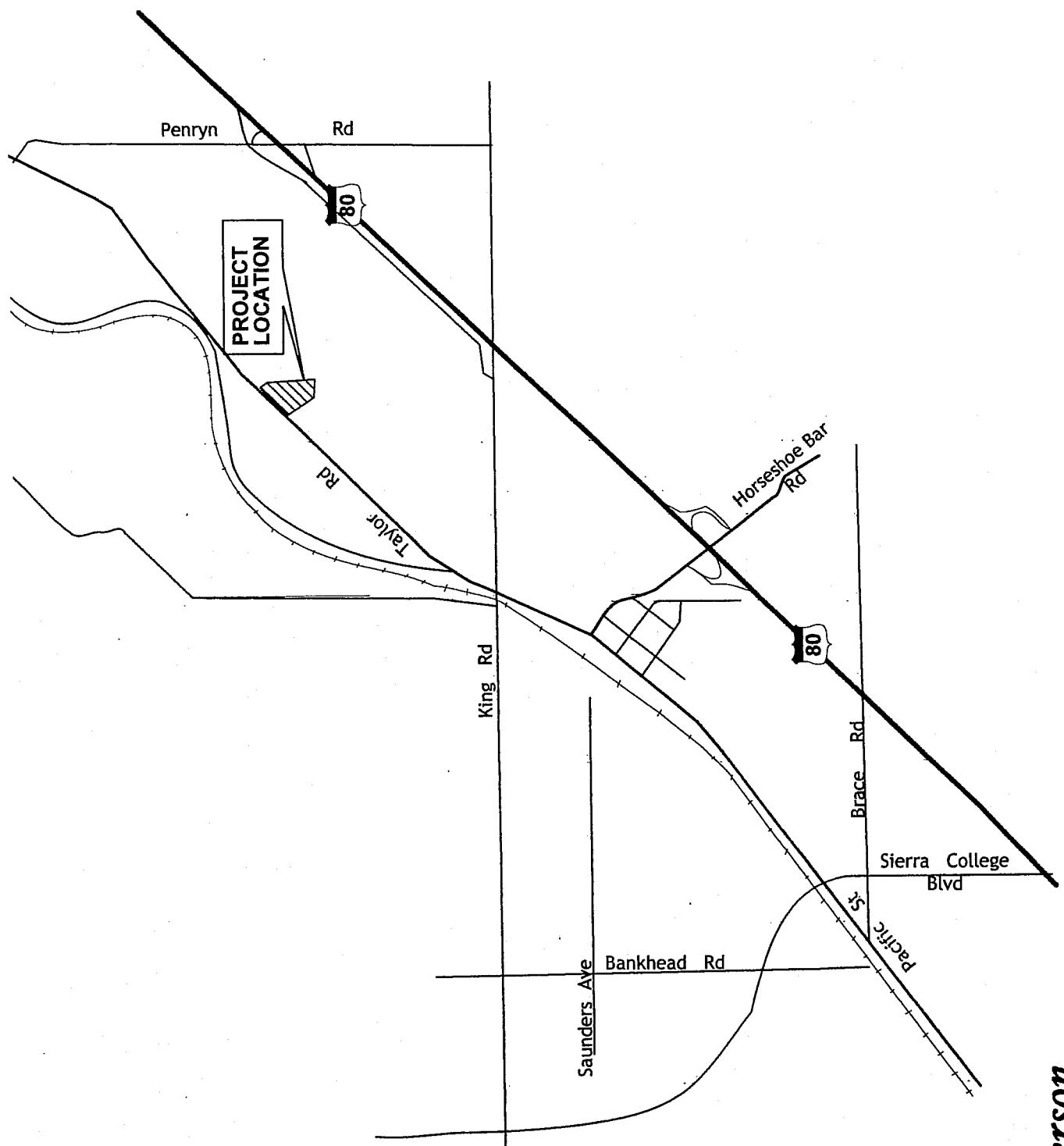
1. Taylor Road / Sierra College Blvd
2. Taylor Road / Horseshoe Bar Road
3. Taylor Road / King Road
4. Taylor Road / Penryn Road

figure 1

VICINITY MAP

KD Anderson
Transportation Engineers

5896-01 1/28/2005



The text that follows describes the physical characteristics of the streets that serve the site.

Taylor Road. Taylor Road is a major arterial street that runs parallel to Interstate 80 and links Loomis with the City of Rocklin to the west and with the communities of Penryn and Newcastle to the east. Taylor Road is generally a two-lane road through Loomis, but incremental half section widening has occurred as development has proceeded. Along the exiting project frontage Taylor Road has one travel lane in each direction, but to the east the roadway has been widened to provide a continuous two-way left turn (TWLT) lane and to the west the roadway has been widened to accommodate auxiliary turn lanes at the Sierra College Blvd intersection. Recent traffic counts conducted by the Town of Loomis in December 2004 reveal that Taylor Road carries an *Average Daily Traffic (ADT)* volume of about 10,460 vehicles per day (vpd) in the area from Sierra College Blvd to Shawn Way, 10,030 between Shawn Way and Horseshoe Bar Road, 16,031 ADT between Horseshoe Bar Road and King Road and 6,964 ADT east of King Road.

Sierra College Blvd. Sierra College Blvd is a major arterial street that links Loomis with the City of Lincoln to the north and with Interstate 80 and the City of Rocklin to the South. Today, Sierra College Blvd has one travel lane in each direction from Rocklin Road across Interstate 80 to its northern terminus at SR 193. Incremental widening has occurred to accommodate auxiliary turn lanes at the Taylor Road intersection. Del Oro High School and Loomis Elementary School are located along Taylor Road in the area east of downtown Loomis. Recent traffic counts reveal that Sierra College Blvd carries about, 20,720 ADT between Granite Drive and Brace Road and 10,585 ADT north of the Taylor Road intersection.

The **Taylor Road / Sierra College Blvd intersection** is controlled by an actuated traffic signal. Left turn lanes and right turn lanes exist on each approach. Pedestrian indications and crosswalks exist on each leg of the intersection. Sierra College Blvd crosses the Union Pacific Railroad (UPRR) tracks that run parallel and north of Taylor Road. This crossing is equipped with crossing arms and warning signals and is linked to the operation of the Taylor Road / Sierra College Blvd traffic signal.

Horseshoe Bar Road. Horseshoe Bar Road is an east-west arterial that links Loomis with Interstate 80 and continues easterly into the area of rural Placer County near Folsom Lake. Horseshoe Bar Road has two travel lanes in each direction, and the most recent traffic counts available from the Town of Loomis indicate that Horseshoe Bar Road carries about 13,186 ADT in the area between Taylor Road and Interstate 80.

The **Taylor Road / Horseshoe Bar Road intersection** is controlled by an actuated traffic signal. Left turn lanes exist on the Taylor Road on each leg of the intersection. The two Horseshoe Bar Road approaches operate in "split" phases and northbound Horseshoe Bar Road has been striped with a separate right turn lane that is controlled by an "overlap" phase that is linked to the westbound left turn on Taylor Road. Crosswalks and pedestrian indications are provided on each leg of the intersection.

King Road. King Road is an east-west arterial street that traverses the Town of Loomis from Sierra College Blvd across Taylor Toad and Interstate 80 to the Auburn Folsom Road in rural

Placer County. King Road has one travel lane in each direction, although auxiliary turn lanes exist at the Taylor Road intersection. Recent traffic counts available from the Town of Loomis indicate that King Road carries about 2,462 ADT between Sierra College Blvd and Bankhead Road, 5,593 ADT between Arcadia Avenue and Taylor Road and 4,254 ADT between Taylor Road and the Interstate 80 overcrossing.

The **Taylor Road / King Road intersection** is controlled by an actuated traffic signal. Separate left turn lanes are available on each leg of the intersection and short right turn lanes have been striped on the King Road approaches. Taylor Road has been widened in this area to accommodate an additional through lane in each direction, but because these lanes are short, they generally function as separate right turn lanes. King Road crosses the Union Pacific Railroad (UPRR) tracks that run parallel and north of Taylor Road. This crossing is equipped with crossing arms and warning signals and is linked to the operation of the Taylor Road / King Road traffic signal.

Penryn Road. Penryn Road is an arterial street which links Taylor Road with Interstate 80 in the area east of the proposed project. This two lane road continues past the Interstate 80 interchange to an intersection on King Road.

The **Taylor Road / Penryn Road intersection** is controlled by a stop sign on the northbound Penryn Road approach. An auxiliary left turn lane is provided on the westbound Taylor Road approach.

Non-Automotive Facilities.

Bus Service. Public bus service is provided to the Loomis area by Placer County Transit. The *Taylor Road Shuttle* links Loomis, Penryn, Auburn and Sierra College in Rocklin. This route stops within Loomis at the downtown multi-modal center. Service is provided between 6:30 a.m. and 4:15 p.m. Monday –Friday with four stops per day. Loomis is also served by *Placer Commuter Express*, which runs during commute hours and links the community with downtown Sacramento. The area is also served by *Placer County Transit Dial-a-Ride* from 6:00 a.m. to 8:00 p.m.

Bicycle Facilities. The existing bicycle system consists of a series of Class I (off-street trails) and Class II (on-street lanes) facilities on major arterials. Class II lanes exist on Taylor Road between Sierra College Blvd and downtown Loomis.

Sidewalks. Sidewalks are provided today on portions of Taylor Road where development has occurred, but sidewalks are infrequent in the area of the proposed project.

Existing Traffic Volumes

New a.m. and p.m. peak hour traffic counts were completed for this study on December 2, 2004. Figure 2 displays these existing traffic volumes that were used for this analysis.

Conditions on major roads have also been evaluated within the context of current daily traffic volumes, as shown in Table 1.

figure 2

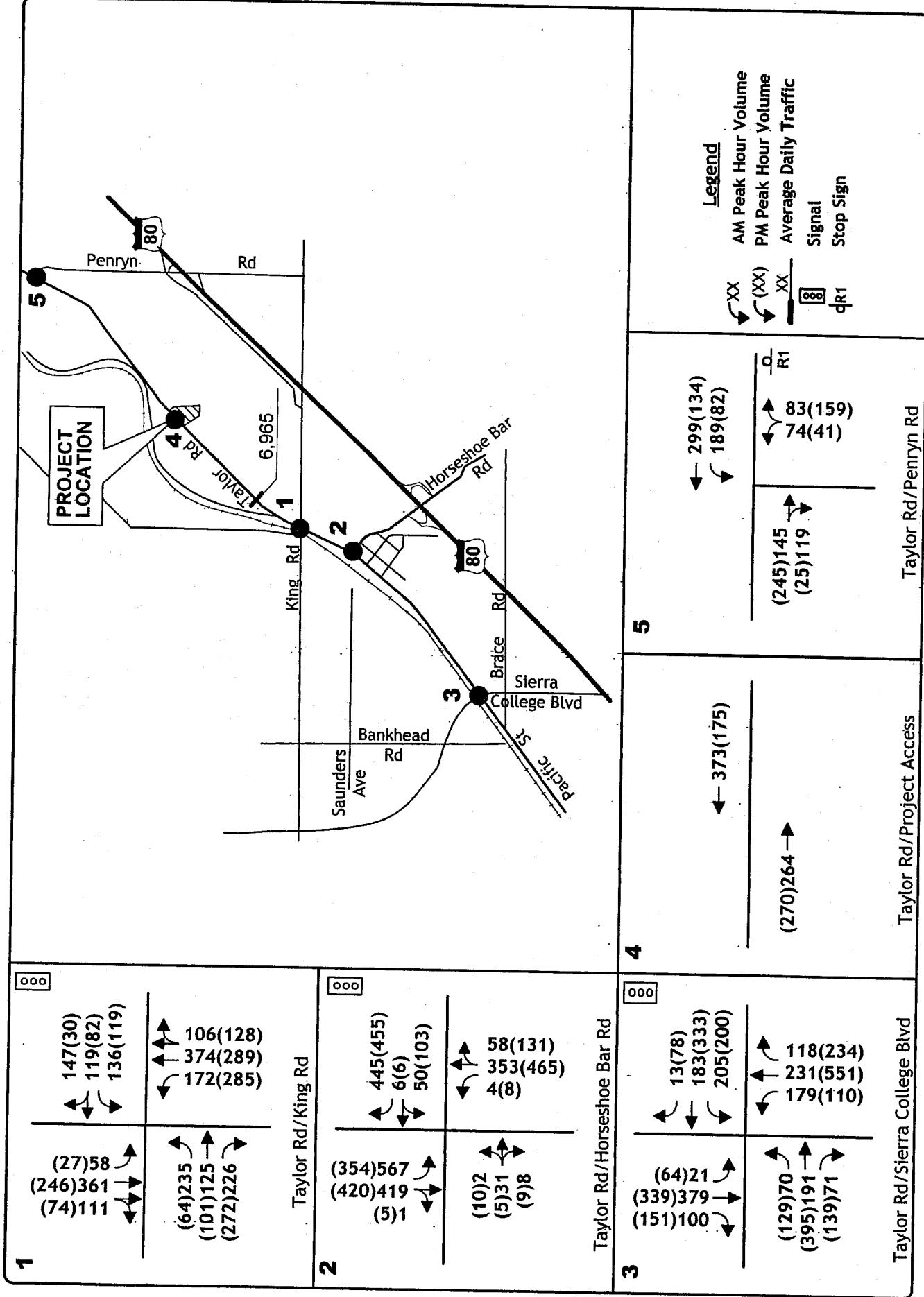


TABLE 1
CURRENT DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Roadway	Segment	# of Lanes	Average Daily Traffic	Daily Volume / Capacity Ratio	LOS
Taylor Road	Sierra College Blvd to Shawn Way	2	10,460	0.70	C
	Shawn Way To Horseshoe Bar Road	2	10,030	0.67	B
	Horseshoe Bar Road to King Road	2	16,030	1.07	F
	East of King Road to Taylor Road	2	6,965	0.46	A
Sierra College Blvd	Granite Drive to Brace Road	2	15,724	0.70	C
	Taylor Road to Bankhead Road	2	10,565	0.47	A
	Bankhead Road to King Road	2	9,645	0.43	A
	North of King Road	2	9,665	0.43	A

Level of Service – Methodologies

To assess the quality of existing traffic conditions, operating Levels of Service were calculated at each study intersection. "Level of Service" (or "LOS") is a qualitative measure of traffic operating conditions whereby a letter grade "A" through "F", corresponding to progressively worsening traffic operating conditions, is assigned to an intersection.

Table 2 presents the characteristics associated with each LOS grade. As shown in Table 2, LOS "A", "B" and "C" are considered satisfactory to most motorists, while LOS "D" is marginally acceptable. LOS "E" and "F" are associated with increasingly long delays and congestion and are unacceptable to most motorists. The Town of Loomis has established LOS "C" as an operational threshold beyond which mitigations are required, although the General Plan recognizes that the Taylor Road / King Road intersection operates at LOS "D" during the a.m. peak hour..

The General Plan also contains thresholds based on the volume of traffic on individual roadway segments. Measured in terms of the Volume / Capacity ratio (V/C), unsatisfactory conditions occur when the v/c ratio exceeds 0.80.

Levels of Service were calculated for study intersections using the methodologies contained in the 2000 Highway Capacity Manual. In the case of intersections controlled by side street stop signs, both the overall Level of Service for the intersection and the individual Level of Service for all movements has been identified.

Levels of Service and V/C ratio for roadway segments were calculated using the capacity thresholds identified in the General Plan.

TABLE 2
LEVEL OF SERVICE DEFINITIONS

Level of Service	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
"A"	Uncongested operations, all queues clear in a single-signal cycle. Delay < 10.0 sec	Little or no delay. Delay \leq 10 sec/veh	Completely free flow.
"B"	Uncongested operations, all queues clear in a single cycle. Delay > 10.0 sec and \leq 20.0 sec	Short traffic delays. Delay > 10 sec/veh and \leq 15 sec/veh	Free flow, presence of other vehicles noticeable.
"C"	Light congestion, occasional backups on critical approaches. Delay > 20.0 sec and $<$ 35.0 sec	Average traffic delays. Delay > 15 sec/veh and \leq 25 sec/veh	Ability to maneuver and select operating speed affected.
"D"	Significant congestion of critical approaches but intersection functional. Cars required to wait through more than one cycle during short peaks. No long queues formed. Delay > 35.0 sec and $<$ 55.0 sec	Long traffic delays. Delay > 25 sec/veh and \leq 35 sec/veh	Unstable flow, speeds and ability to maneuver restricted.
"E"	Severe congestion with some long standing queues on critical approaches. Blockage of intersection may occur if traffic signal does not provide for protected turning movements. Traffic queue may block nearby intersection(s) upstream of critical approach(es). Delay > 55.0 sec and $<$ 80.0 sec	Very long traffic delays, failure, extreme congestion. Delay > 35 sec/veh and \leq 50 sec/veh	At or near capacity, flow quite unstable.
"F"	Total breakdown, stop-and-go operation. Delay > 80.0 sec	Intersection blocked by external causes. Delay > 50 sec/veh	Forced flow, breakdown.

Overall Level of Service for unsignalized intersections is weighted average of delays experienced by all motorists yielding the right of way, excluding through traffic.

Sources: 2000 Highway Capacity Manual, Transportation Research Board (TRB) Special Report 209.

Existing Levels of Service

Current a.m. and p.m. peak hour Levels of Service are summarized in Table 3. As shown, the a.m. peak hour Level of Service at the King Road / Taylor Road intersection currently exceeds the Town's LOS "C" threshold. However, conditions at other study intersections are LOS "C".

As noted in the Town of Loomis General Plan, conditions at the Taylor Road / King Road intersection are greatly influence by the traffic headed to and from Del Oro High school during the periods before and after school. Extreme congestion and long queues are prevalent during the peak fifteen minutes before and after school, primarily as a result of the lack of alternative access to the school.

TABLE 3
EXISTING INTERSECTION LEVEL OF SERVICE

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec)	LOS	Average Delay (sec)	LOS
Taylor Road / Penryn Road (overall) WB left turn NB left+right turn	WB Stop	(14.7 sec)	(B)	(11.9 sec)	(B)
		8.4 sec		8.1 sec	
		22.2 sec		13.4 sec	
Taylor Road / King Road	Signal	36.2 sec	D	29.6 sec	C
Taylor Rd / Horseshoe Bar Rd	Signal	24.6 sec	C	27.2 sec	C
Taylor Rd / Sierra College Blvd	Signal	27.9 sec	C	34.2 sec	C

As was shown in Table 1, based on daily traffic volumes the segment of Taylor Road between Horseshoe Bar Road and King Road operates with a v/c ratio of 1.07. This is in excess of the minimum established by the Loomis General Plan. All other roads carry volumes that are indicative of acceptable conditions.

PROJECT TRAFFIC IMPACTS

Traffic conditions resulting from development of the Rivendale Communities Subdivision project are described in this report section. Project impacts have been quantified by estimating the number and directional distribution of project trips, and by superimposing those trips onto current traffic volumes at the study intersections. Levels of Service were then recalculated for the "Existing Plus Project" condition.

Project Characteristics

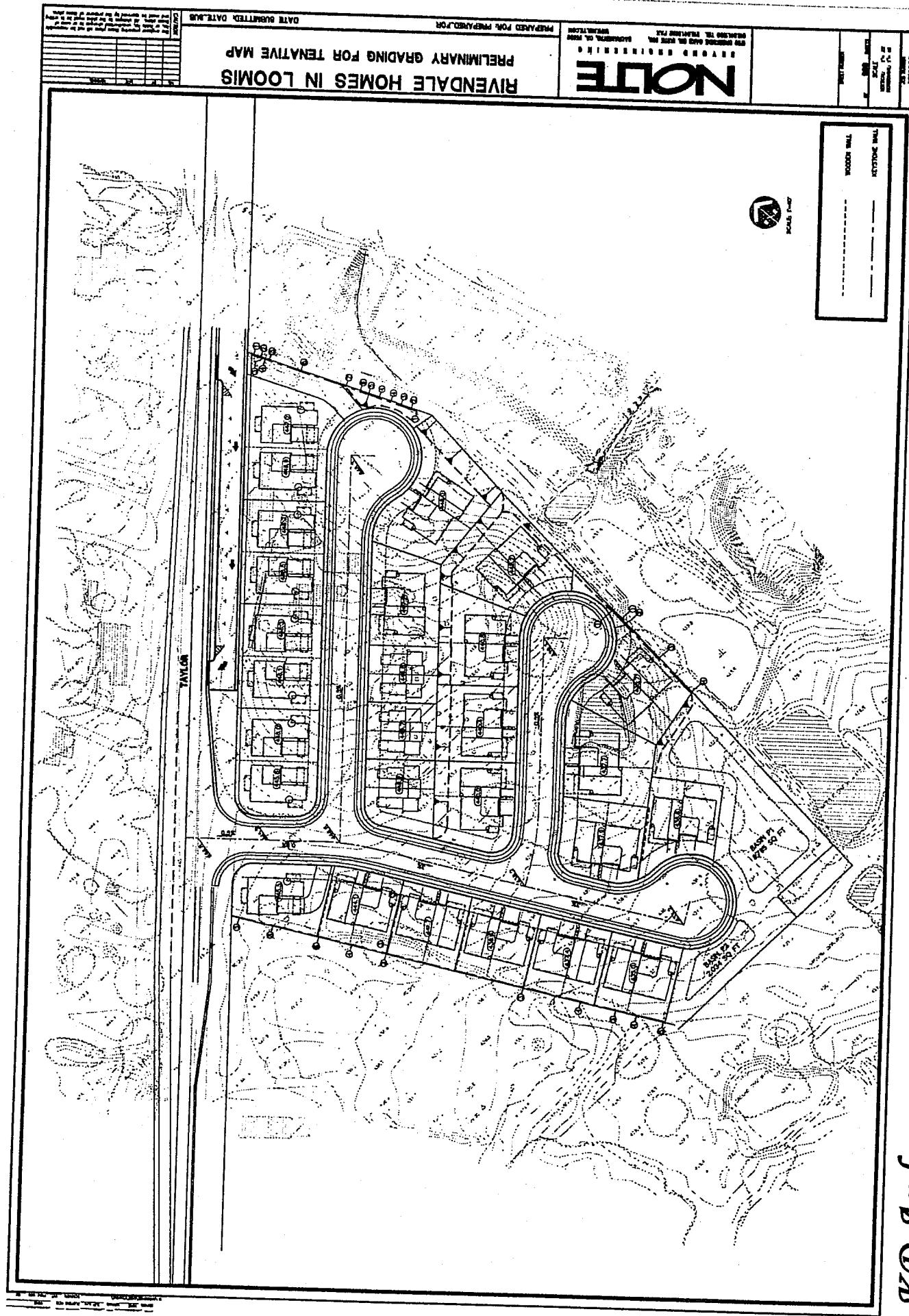
The proposed project is a mixed use development located on the south side of Taylor Road between King Road and Penryn Road. As shown in Figure 3, 49 residential lots are planned, but the 9 lots adjoining Taylor Road are planned to also accommodate commercial development. Each of these lots is to accommodate up to 400 square feet of commercial uses, for a total of 3,600 sf of commercial space. While the nature of the occupants of the commercial buildings is unknown, it is expected that various types of service businesses and craftsmen could live in the project and offer their services from the ancillary space.

The extent of improvements planned along Taylor Road accounts for standard frontage improvements that have been conditions of approval for other projects on Taylor Road. Taylor Road is typically widened to half of its ultimate right of way where new development occurs. In other parts of the Town this widening permits creation of a left turn lane at new access intersections and provides the space for an eventual second eastbound though lane. Sidewalk curb and gutter is also required.

In this case, the project proponents suggest that the space that may normally be devoted to a left turn lane and second eastbound through lane could instead be used to provide parking for the planned commercial uses.

SITE PLAN

figure 3



Trip Generation. Development of the project will result in new automobile trips in the study area. Typically trip generation rates that are available from the Institute of Transportation Engineers (ITE) are employed to estimate the number of automobiles that are expected from development projects. Table 4 that follows presents both published ITE trip generation rates for single-family residences.

The number of trips generated by the project is presented in Table 5. As shown, the residential lots in the project may generate about 470 daily trips with 37 and 50 trips during the a.m. and p.m. peak hour, respectively.

The trip generation rates for commercial uses on the site can vary appreciable depending on the actual uses that occur. Retail businesses that attract a considerable number of customers have higher trip generation rates than manufacturing or office uses, and typical rates are shown in Table 4.

Because it is unlikely that any of the commercial uses would involve convenience oriented retail use or food service, the commercial trip generation has been based on ITE rates for specialty retail centers. Use of this rate would be similar to that occurring with professional / medical / dental office space. As shown in Table 5, the commercial space could generate 128 new daily trips, with 8 trips occurring in the a.m. peak hour and 8 trips occurring during the p.m. peak hour.

TABLE 4
TRIP GENERATION RATES

Description	Unit	Trips per Unit	AM Peak Hour			PM Peak Hour		
			Trips per Unit	% In	% Out	Trips per Unit	% In	% Out
S. F. Residences	Dwelling	9.57	0.75	25%	75%	1.01	65%	35%
Convenience Market	Ksf	737.99	67.03	50%	50%	52.41	51%	49%
Specialty Retail	Ksf	44.32	2.71	60%	40%	2.71	48%	52%
Medical Office	Ksf	36.13	2.48	79%	21%	3.72	27%	73%

ksf is 1,000 sf
Rates in Bold were used for this analysis

TABLE 5
TRIP GENERATION ESTIMATE

Description	Quantity	Daily	AM Peak Hour (7:00 to 9:00 a.m.)			PM Peak Hour (4:00 to 6:00 p.m.)		
			Trips	In	Out	Trips	In	Out
Residential	49 du's	470	37	9	28	50	32	18
Commercial	3.6 ksf	160	10	6	4	5	5	10
<Pass-By Trips @ 20%>		<32>	<2>	<1>	<1>	<1>	<1>	<2>
Net New Commercial Trips		128	8	5	3	8	4	4
Total New Traffic		598	45	14	31	58	36	22

Trip Distribution

Having determined the number of trips that may be generated by the proposed project, it is necessary to identify the directional distribution of project traffic in order to assign these trips to the study area street system.

Peak hour trips generated by the project's residences will generally be oriented to regional employment centers, shopping opportunities and, in the morning, local schools. Trips generated by the commercial uses will be drawn from the Loomis, Penryn and Rocklin areas. However, a portion of the trips attracted to the commercial uses will be trips drawn from traffic already on Taylor Road. These "pass-by trips" will generally be drawn in proportion to the volume of traffic in each direction during peak hours. Table 6 presents the trip distribution for traffic generated by this project.

TABLE 6
DIRECTIONAL TRIP DISTRIBUTION

Direction	Percentage		
	New Commercial Trips	Residential Trips	
		A.M.	P.M.
North on Sierra College Blvd	10%	5%	5%
East on Taylor Road	15%	5%	10%
East on Interstate 80	15%	5%	10%
West on Interstate 80	15%	30%	30%
West on Taylor Road	10%	10%	10%
South on Sierra College Blvd	10%	15%	15%
Internal to Loomis	25%	30%	20%

Existing Plus Project Conditions

Using the directional distribution presented in Table 6, weekday peak hour traffic generated by development of the project was assigned to the adjacent street system. The assignment of project trips has been conducted considering the location of driveways, type of access proposed, and the quickest path available during peak traffic hours.

Figure 4 displays "Project Only" traffic, while Figure 5 indicates resulting "Existing Plus Project" a.m. and p.m. peak hour traffic volumes.

Daily Traffic Volumes. Table 7 presents the daily traffic volume contribution of this project to study area roads and resulting Levels of Service. As shown, the addition of project traffic will exacerbate conditions that are already in excess of capacity on the segment of Taylor Road between Horseshoe Bar Road and King Road. All other segments will continue to operate within the Town's minimum LOS standard.

Intersection Levels of Service. Table 8 presents Levels of Service at the project access and study intersections with development of the project. As shown, development of this project will not result in conditions in excess of Town standards at any locations, although project traffic will exacerbate the poor Level of Service already occurring at the **King Road / Taylor Road intersection** during the period before school begins. As LOS "D" is accepted by the Town, no mitigation is required at this location.

Measures to improve traffic conditions in the area of Del Oro High School could be considered. While it is unlikely that Taylor Road can be widened, development of another access to the school parking facilities would reduce the volume of traffic in this area and conceivable through downtown Loomis. One improvement option would be to pave the Boyington Road access and rear parking lot and make this area available for students and for parent drop off. Del Oro High School is currently conducting a drive to gather funds for this improvement.

Development of the project will incrementally add traffic to the regional circulation system that serves the Loomis area, including small traffic increases on mainline Interstate 80 and the interchanges that provide access to the freeway. However, the incremental impact of this project on Interstate 80 is not significant and the project will contribute its fair share to the cost of planned improvements to the I-80/Horseshoe Bar Road interchange by paying adopted Town of Loomis Mitigation Fees.

figure 4

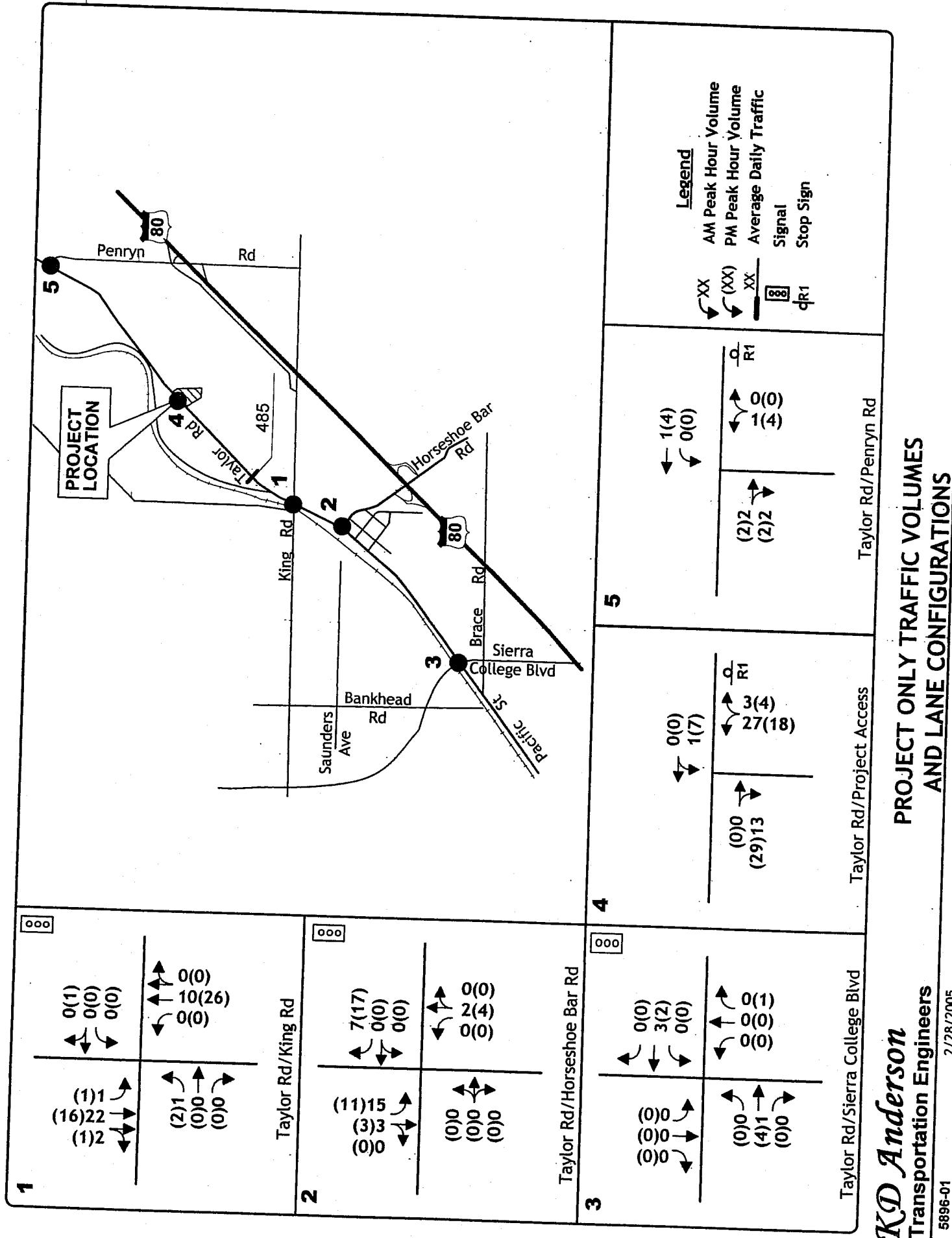
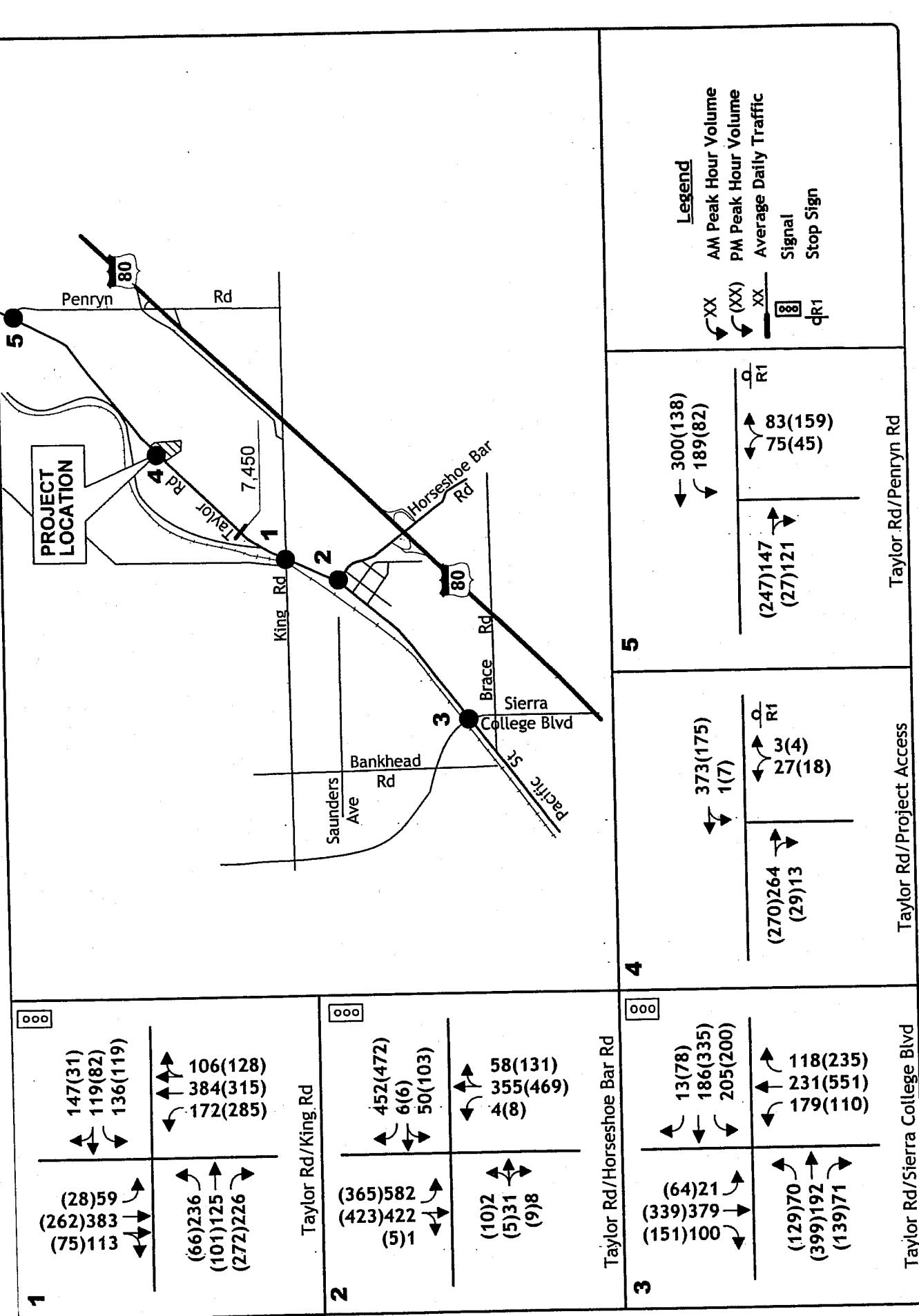


figure 5



EXISTING PLUS PROJECT TRAFFIC VOLUMES AND LANE CONFIGURATIONS

KD Anderson
Transportation Engineers

TABLE 7
EXISTING PLUS PROJECT DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Roadway	Segment	Existing			Existing Plus Project		
		# of Lanes	Average Daily Traffic	Volume / Capacity Ratio	LOS	Average Daily Traffic Project Only	Existing Plus Project
Taylor Road	Sierra College Blvd to Shawn Way	2	10,460	0.70	C	70	10,530
	Shawn Way To Horseshoe Bar Rd	2	10,030	0.67	B	70	10,100
	Horseshoe Bar Road to King Rd	2	16,030	1.07	F	440	16,470
	East of King Road to Project	2	6,965	0.46	A	485	7,450
Sierra College Blvd	Granite Drive to Brace Rd	2	15,724	0.70	C	10	15,734
	Granite Drive to Taylor Road	2	15,724	0.70	C	10	15,734
	Taylor Road to Bankhead Road	2	10,565	0.47	A	0	10,565
	Bankhead Road to King Road	2	9,645	0.43	A	0	9,645
	North of King Road	2	9,665	0.43	A	30	9,695

TABLE 8
EXISTING PLUS PROJECT
INTERSECTION LEVEL OF SERVICE

Intersection		AM Peak Hour						PM Peak Hour					
		Existing			Existing Plus Project			Existing			Existing Plus Project		
		Average Delay (sec)	LOS	Average Delay (sec)	LOS	Average Delay (sec)	LOS	Average Delay (sec)	LOS	Average Delay (sec)	LOS	Average Delay (sec)	LOS
Control		36.2 sec	D	37.7 sec	D	26.0 sec	C	26.2 sec	C	26.2 sec	C	26.2 sec	C
Taylor Road / King Road	Signal	24.6 sec	C	25.6 sec	C	27.2 sec	C	28.5 sec	C	28.5 sec	C	28.5 sec	C
Taylor Rd / Horseshoe Bar Rd	Signal	27.9 sec	C	27.9 sec	C	34.2 sec	C	34.2 sec	C	34.4 sec	C	34.4 sec	C
Taylor Rd / Sierra College Blvd	NB Stop			(14.2 sec)	(B)							(11.0 sec)	(B)
Taylor Road / Access (overall)	WB left turn			7.9 sec								8.0 sec	
	NB left+right turn			14.4 sec								12.0 sec	
Taylor Road / Penryn Road (overall)	NB Stop	(14.7 sec)	(B)	(14.9 sec)	(B)	(11.9 sec)	(B)	(12.1 sec)	(B)	(12.1 sec)	(B)	(12.1 sec)	(B)
	WB left turn	8.4 sec		8.5 sec		8.1 sec		8.1 sec		8.1 sec		8.1 sec	
	NB left+right turn	22.2 sec		22.5 sec		13.4 sec		13.4 sec		13.7 sec		13.7 sec	

KDA

CUMULATIVE TRAFFIC IMPACTS

The relative impacts of the proposed project have also been evaluated within the context of long term traffic conditions anticipated under the Town of Loomis General Plan. Under Town of Loomis traffic study guidelines, a cumulative analysis is not required if the proposed project is consistent with the General Plan and the project's long term traffic impact is already accounted for via the Town's Capital Improvement Program (CIP). As the project is consistent with the General Plan, its cumulative impact is addressed by existing Town of Loomis mitigation fees in those locations where improvements are planned. However, no mitigation program exists to address the regional impact of South Placer County growth on Sierra College Blvd. Thus, until the Town adopts a program for participating in the cost of this improvement, cumulative analysis of this facility is required in order that the proposed project's "fair share" contribution to the cost of regional circulation system improvements can be determined.

The adequacy of project access is also considered under cumulative conditions. As part of this analysis the need for a left turn lane on westbound Taylor Road has been reviewed.

Background Traffic Conditions

Year 2020 Traffic Volumes. The Town of Loomis General Plan is the basis for future traffic volume forecasts in the Loomis area. The projections included in this document were made using a version of the City of Rocklin's regional travel demand forecasting model with adjustments made to reflect the Town of Loomis 2000 General Plan Update.

The General Plan presents daily traffic volumes on major streets, and interpolation of this data was required to produce peak hour forecasts. For this analysis, Year 2020 daily volumes from the General Plan update were compared to current traffic volumes to develop traffic volume growth factors that could be applied to current observations in order to approximate a.m. and p.m. peak hour conditions at the project access.

Year 2020 Levels of Service Based on Daily Volumes

Table 9 presents long-term traffic volumes on study area streets as suggested by the Loomis General Plan Update EIR. For this analysis, forecasts contained in the GPU have been assumed to include the traffic associated with the proposed project, and "no project" volumes have been forecast by manually subtracting project traffic from those totals.

As shown, without improvements, LOS "F" conditions are projected on most major roads with and without the proposed project. The GPU notes the range of improvements needed to deliver acceptable conditions, including major widening of Sierra College Blvd to 4-6 lanes. However, the GPU acknowledges that significant and unavoidable cumulative impacts will remain after all identified GPU improvements are constructed.

Year 2020 Levels of Service At Intersections

The extent of improvements ultimately needed at the project access has been considered with regard to peak hour traffic volumes occurring in the year 2020. To estimate year 2020 peak hour volumes projected daily traffic volumes have been compared to current daily traffic volumes in order to develop growth rates that can be applied to current peak hour volumes and approximate year 2020 conditions. Because improvements within downtown Loomis are already addressed by the Town's CIP, this level of analysis has been limited to the project's Taylor Road access.

As shown in Table 9, traffic volumes on Taylor Road north of King Road are projected to increase at a factor of 1.71. To develop peak hour traffic volumes the factor identified for Taylor Road was applied to the volume of traffic passing by the site today.

**TABLE 9
FUTURE TRAFFIC VOLUME GROWTH RATES**

Road	Location	Daily Traffic Volume		Growth Rate
		2004	2020	
Taylor Road	East of King Road	6,965	11,900	1.71

TABLE 10
CUMULATIVE PLUS PROJECT
DAILY TRAFFIC VOLUMES AND LEVELS OF SERVICE

Roadway	Segment	Year 2020 Without Project						Year 2020 With Project					
		# of Lanes	Average Daily Traffic	Volume / Capacity Ratio	LOS	Without Improvements			Volume / Capacity Ratio	LOS	Average Daily Traffic	Volume / Capacity Ratio	LOS
						Project Only	Total*	Average Daily Traffic					
Taylor Road	Sierra College Blvd to Shawn Way	2	23,030	1.54	F	70	23,100	1.54	F	18,400	1.23	F	
	Shawn Way to Horseshoe Bar Rd	2	23,030	1.54	F	70	23,100	1.54	F	18,400	1.23	F	
	Horseshoe Bar Rd to King Rd	2	17,360	1.16	F	440	17,900	1.18	F	12,200	0.81	D	
	East of King Rd	2	11,215	0.75	C	485	11,700	0.78	C	11,900	0.79	C	
	Interstate 80 to Granite Dr	2	48,290	2.06	F	10	48,300	2.11	F	49,600	0.92	E	
Sierra College Blvd	Granite Dr to Taylor Rd	2	48,290	2.06	F	10	48,300	2.11	F	49,600	0.92	E	
	Taylor Rd to Bankhead Rd	2	36,300	1.59	F	0	36,300	1.59	F	35,000	0.84	D	
	Bankhead Rd to King Rd	2	19,100	0.83	D	0	19,100	0.83	D	19,900	0.55	A	
	North of King Rd	2	24,970	1.09	F	30	25,000	1.09	F	26,000	0.72	C	
	Assumed GPU Improvements include widening Sierra College Blvd to four lanes north of Bankhead Road and 6 lanes south of Bankhead Road												

* Source: Loomis General Plan **Bold** text indicates conditions in excess of Town standard

As shown in Table 11, the Level of Service at the project access will remain within the Town's LOS "C" standard under year 2020 conditions.

**TABLE 11
YEAR 2020 INTERSECTION LEVEL OF SERVICE WITH PROJECT**

Intersection	Control	AM Peak Hour		PM Peak Hour	
		Average Delay (sec)	LOS	Average Delay (sec)	LOS
Taylor Road / Access <i>(Overall)</i> WB left turn NB approach	NB Stop	(24.3 sec) 8.5 sec 24.8 sec	(C)	(14.3 sec) 8.6 sec 16.2 sec	(B)

Access Evaluation

The adequacy of project access has been evaluated within the context of anticipated future traffic conditions adjacent to the site. As the project site will take access to Taylor Road from a new roadways that will intersect Taylor Road, the adequacy of the proposed access design has been considered with regard to the distance separating Taylor Road from first local street (i.e., throat depth), the need for a westbound left turn lane on Taylor Road and the adequacy of the parking are proposed for the commercial properties.

Throat Depth. Full access is proposed at the access. Based on the projected peak hour turning movements at these locations, the number of exiting automobiles queuing in on the approach to Taylor Road has been calculated under Town of Loomis guidelines using standard queue theory for exiting vehicles. Per Town guidelines, a 95% confidence level has been assumed, meaning that the forecast queue length should only be exceeded 5% of the time during the peak hour.

Anticipated queue lengths for exiting traffic are presented in Table 12. As shown, the 95% queue at the project access is calculated to be less than or equal to one vehicle. The throat depth at the access is proposed to be about 110 feet in length, which would provide room for 4 vehicles Taylor Road. Thus the throat depth that has been proposed is adequate to meet Town standards.

TABLE 12
TAYLOR ROAD ACCESS QUEUE LENGTHS
UDNER 2020 CONDITIONS

Taylor Road / Access		
Service Volume = $\tau = 33$ vph		
Movement Capacity = $\mu = 215$ vph		
$\rho = \rho = 0.153$		
P(1)	P ($x=n$) 0.847 0.129	P ($x>n$) 0.847 0.977

Westbound Left Turn Lane. In urban areas, left turns lanes are employed for two reasons. Left turn lanes provide space outside of the through traffic for motorists waiting for a gap in traffic in order to make a left turn. National standards exist to suggest when the benefits of a left turn lane are sufficient to warrant their installation for this purpose. Based on guidelines published by the American Association of State Highway and Transportation Officials (AASHTO), a westbound left turn lane would not be required to accommodate the limited number of left turns expected at this site.

Left turn lanes are also provided in urban areas to facilitate left turns onto the main road. When traffic volumes are heavy, two-way left turn lanes provide a refuge area that permits motorists to make a left turn in two steps, first crossing into the turn lane before later merging into through traffic. Thus, creation of a westbound left turn lane could become part of a comprehensive plan to create a continuous two way left turn lane on the east end of Taylor Road as exists today on the west end of the Town.

The Town of Loomis has been requiring that left turn lanes be installed with all new development on Taylor Road. A short left turn lane was constructed for the Legacy Lane subdivision to the east of the proposed project and for another small subdivision to the west. It is unlikely that either location would carry traffic volumes warranting a left turn lane, but each installation is an incremental part of the plan for a continuous left turn lane treatment.

Because the volume of traffic at the project access is slight, the Town could at its discretion alleviate to delay installation of a westbound left turn lane and instead permit the road to be widened as proposed to allow "interim" construction of an access / parking area for the proposed commercial uses. However, given the growth rate identified for traffic on Taylor Road, it is reasonable to conclude that conversion to a left turn lane will eventually be required.

Commercial Parking / Loading area. The proposed site plan proposes that a portion of the area within the Taylor Road right of way be improved and used to provide a parking area for planned commercial uses. The plan suggests that motorists would turn left across eastbound Taylor Road traffic into the aisle, park along the north side of the aisle and then exit across traffic onto westbound Taylor Road. A sidewalk would be constructed separating Taylor Road from the parking area.

Because the amount of traffic using this area is likely to be limited, the adequacy of this plan is predicated safety. Our consideration of the plan has revealed the following concerns.

1. ***Direction of Traffic.*** Orienting the aisle in the westbound direction will require motorists to cross opposing traffic to enter and to exit the site. Given that no left turn lane can be constructed, this unconventional maneuver is unnecessarily problematic. Configuring the access for eastbound flow would be safer and preferable.
2. ***Obstruction Created by Sidewalk.*** Creation of an isolated sidewalk bounded by access openings may prove to be difficult to see at night. This feature would be unexpected, especially as the balance of Taylor Road is widened to its ultimate width. Creating a standard parking lane along a widened Taylor Road, as exists on the west end of town would eliminate this potential obstruction.

If the Town elects to delay installation of a westbound left turn lane at the project access and facilitate on street parking, we recommend that it be configured in an eastbound direction and installed as part of a conventional parking area along a widened Taylor Road.

MITIGATION MEASURES / RECOMMENDATIONS

The purpose of this section is to describe measures that will alleviate unacceptable traffic conditions. For the Town of Loomis, "unacceptable" conditions are identified as those under which weekday Level of Service (LOS) "D", "E", or "F" is experienced.

Mitigations for Development of Project

Frontage Improvements. The project should widen Taylor Road to the ultimate width typically required by the Town of Loomis for projects in this area.

Del Oro High School Parking. While not required to alleviate an identified Level of Service impact, the project could make a voluntary contribution to the cost of paving the rear parking lot at Del Oro High School in order to reduce the volume of traffic on Taylor Road in front of the school.

Cumulative Mitigations. The project will need to contribute its fair share to the cost of long term local and regional improvements. Within the Town of Loomis, payment of adopted mitigation fees will suffice to address planned improvements to the Town's roads and the Interstate 80 / Horseshoe Bar Road interchange.

Improvements to Sierra College Blvd however, may not yet be included in the Town's mitigation fee program, and until such time as the fee program is modified, some mechanism must be identified to permit this project to contribute its fair share to the cost of needed improvements identified in the Loomis General Plan. While other jurisdictions have pursued a regional approach to funding Sierra College Blvd improvements, the Town has not elected to participate in such a funding program. However, we understand that the Town is considering modifying the fee program to address this deficiency.

A possible method for identifying a fair share contribution involves identification of probable improvement costs and allocation of a "fair share" of these costs based on the percentage of future traffic associated with this project. As shown in Table 13, project trips would represent a small percentage of the traffic at various locations on Sierra College Blvd.

Projections for the cost of improving Sierra College Blvd have been obtained from Placer County Transportation Planning Agency (appendix) from their work for the SPRTA / JPA. For this analysis we have assumed that Loomis projects should contribute to the costs of widening Sierra College Blvd north of Granite Drive (\$20.25 million), but not for the costs associated with improvements south of Granite Drive (\$45.35 million). This choice was made since the Loomis General Plan does not include long-term traffic volume forecasts for the area on and south of the I-80 / Sierra College Blvd interchange. In addition, we have assumed that each trip generated by this project would have a corresponding end somewhere else that would be responsible for half of the cost of the trip.

Applying the identified project percentages to these costs north of Granite Drive yields an estimate of the "fair share" contribution shown in Table 14. These costs would be different if the Town elected to participate in the cost of improvements south of Granite Drive. The costs may also be different if the Town identifies an alternative funding mechanism in the near future

**TABLE 13
CUMULATIVE PLUS PROJECT
FAIR SHARE OF DAILY TRAFFIC VOLUMES**

Roadway	Segment	Daily Traffic Volume			Project	
		Total Year 2020	Existing 2004	Net New	Daily Trips	% of New
Sierra College Blvd	Interstate 80 to Granite Dr	49,600				
	Granite Dr to Taylor Rd	49,600	15,724	33,876	10	0.03%
	Taylor Rd to Bankhead Rd	35,000	10,565	24,435	0	0.00%
	Bankhead Rd to King Rd	19,900	9,645	10,255	0	0.00%
	North of King Rd	26,000	9,665	16,345	30	0.18%

**TABLE 14
FAIR SHARE CONTRIBUTION TO SIERRA COLLEGE BLVD WIDENING**

Location	Lanes	Cost (millions)	Residential	
			Share	Cost
SR 193 to Rocklin (north limit)	4	\$9.0	0.0003	\$2,700
Rocklin (north) to Loomis (north)	4	\$3.8	0.0003	\$1,140
Loomis (north) to King Road	4	\$1.5	0.0003	\$450
King Road to Bankhead Road	4	\$3.0	0.0000	\$0
Bankhead Road to Taylor Road	4	\$1.0	0.0000	\$0
Taylor Road to Granite Drive	6	\$1.95	0.0018	\$3,510
Total Excluding I-80 Interchange				\$7,800
Granite Drive to I80 & Interchange	6	\$26.0		

Note: Costs of I-80 / Sierra College Blvd interchange and Sierra College Blvd south of I-80 assumed to be borne by other sources.

APPENDIX

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Scenario Report

Scenario: ex am plus project

Command: Default Command
Volume: ex am
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: am peak hour
Trip Distribution: current am
Paths: Default Paths
Routes: Default Routes
Configuration: Default Configuration

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Trip Generation Report

Forecast for am peak

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
3	Rivendale Su	49.00	sf res	0.19	0.56	9	27	36	81.8
3	Rivendale Su	1.00	commercial	5.00	3.00	5	3	8	18.2
	Zone 3 Subtotal					14	30	44	100.0
	TOTAL					14	30	44	100.0

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Trip Distribution Report

Percent Of Trips current am

Zone	To Gates									
	1	2	3	4	5	6	7	8	9	10
3	5.0	10.0	5.0	5.0	2.5	5.0	30.0	15.0	10.0	12.5

**EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES**

**Turning Movement Report
am peak**

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Taylor Road / King Road													
Base	172	374	106	58	361	111	235	125	226	136	119	147	2170
Added	0	10	0	1	22	2	1	0	0	0	0	0	36
Total	172	384	106	59	383	113	236	125	226	136	119	147	2206
#2 Taylor Rd / Horseshoe Bar Rd													
Base	50	6	445	2	31	8	4	353	58	567	419	1	1944
Added	0	0	7	0	0	0	0	2	0	15	3	0	27
Total	50	6	452	2	31	8	4	355	58	582	422	1	1971
#3 Taylor Rd / Sierra College Blvd													
Base	179	231	118	21	379	100	70	191	71	205	183	13	1761
Added	0	0	0	0	0	0	0	1	0	0	3	0	4
Total	179	231	118	21	379	100	70	192	71	205	186	13	1765
#4 Taylor Road / South Access													
Base	0	0	0	0	0	0	0	330	0	0	401	0	731
Added	0	0	0	0	0	0	0	2	0	0	3	0	5
PassBy	5	0	5	0	0	0	0	-5	5	5	-5	0	10
Total	5	0	5	0	0	0	0	327	5	5	399	0	746
#5 Taylor Road / North Access													
Base	0	0	0	0	0	0	0	330	0	0	401	0	731
Added	0	0	0	0	0	0	0	2	0	0	3	0	5
Total	0	0	0	0	0	0	0	332	0	0	404	0	736
#6 Taylor Road / Access													
Base	0	264	0	0	373	0	0	0	0	0	0	0	637
Added	0	0	13	1	0	0	0	0	0	27	0	3	44
Total	0	264	13	1	373	0	0	0	0	27	0	3	681
#7 Sierra College Blvd / King Road													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	1	0	0	0	0	0	0	0	2	3
Total	0	0	0	1	0	0	0	0	0	0	0	2	3
#8 Taylro Road / Penryn Road													
Base	0	145	119	189	299	0	0	0	0	74	0	83	909
Added	0	2	2	0	1	0	0	0	0	1	0	0	6
Total	0	147	121	189	300	0	0	0	0	75	0	83	915

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIESImpact Analysis Report
Level Of Service

Intersection

#	Intersection	Base			Future			Change in D/V
		Del/ LOS	Veh	C	Del/ LOS	Veh	C	
# 1	Taylor Road / King Road	D	36.2	0.883	D	37.7	0.902	+ 1.585
# 2	Taylor Rd / Horseshoe Bar Rd	C	24.6	0.858	C	25.6	0.872	+ 0.939
# 3	Taylor Rd / Sierra College Blvd	C	27.9	0.753	C	27.9	0.753	+ 0.028
# 6	Taylor Road / Access	A	0.0	0.000	B	14.4	0.000	+ 0.000 V/C
# 8	Taylro Road / Penryn Road	C	22.2	0.000	C	22.5	0.000	+ 0.000 V/C

**EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES**

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Taylor Road / King Road

Cycle (sec):	70	Critical Vol./Cap. (X):	0.883
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	36.2
Optimal Cycle:	85	Level Of Service:	D

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Lanes:	1 0 1 0 1	1 0 1 0 1	1 0 1 0 1	1 0 0 1 0

Volume Module: >> Count Date: 2 Dec 2004 <<												
Base Vol:	172	374	106	58	361	111	235	125	226	136	119	147
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	172	374	106	58	361	111	235	125	226	136	119	147
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	215	468	133	73	451	139	294	156	283	170	149	184
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	215	468	133	73	451	139	294	156	283	170	149	184
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	215	468	133	73	451	139	294	156	283	170	149	184

Saturation Flow Module:											
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.83	0.92	0.97	0.83	0.92	0.97	0.83	0.92	0.89
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.45
Final Sat.:	1753	1845	1568	1753	1845	1568	1753	1845	1568	1753	757

Capacity Analysis Module:												
Vol/Sat:	0.12	0.25	0.08	0.04	0.24	0.09	0.17	0.08	0.18	0.10	0.20	0.20
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.14	0.36	0.36	0.06	0.28	0.28	0.19	0.27	0.27	0.14	0.22	0.22
Volume/Cap:	0.88	0.71	0.24	0.71	0.88	0.32	0.88	0.31	0.67	0.67	0.88	0.88
Delay/Veh:	58.8	23.0	16.0	52.9	40.7	20.5	50.7	20.8	27.1	35.3	47.3	47.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.8	23.0	16.0	52.9	40.7	20.5	50.7	20.8	27.1	35.3	47.3	47.3
DesignQueue:	7	13	3	3	14	4	10	5	8	6	5	6

**EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES**

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Taylor Road / King Road

Cycle (sec): 70 Critical Vol./Cap. (X): 0.902

Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 37.7

Optimal Cycle: 90 Level Of Service: D

Approach: North Bound South Bound East Bound West Bound

Movement:	L - T - R	L - T - R	L - T - R	L - T - R
-----------	-----------	-----------	-----------	-----------

Control:	Protected	Protected	Protected	Protected
----------	-----------	-----------	-----------	-----------

Rights:	Include	Include	Include	Include
---------	---------	---------	---------	---------

Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
-------------	-------	-------	-------	-------

Lanes:	1 0 1 0 1	1 0 1 0 1	1 0 1 0 1	1 0 0 1 0
--------	-----------	-----------	-----------	-----------

Volume Module: >> Count Date: 2 Dec 2004 <<				
---	--	--	--	--

Base Vol:	172 374 106 58 361 111 235 125 226 136 119 147			
-----------	--	--	--	--

Growth Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
-------------	---	--	--	--

Initial Bse:	172 374 106 58 361 111 235 125 226 136 119 147			
--------------	--	--	--	--

Added Vol:	0 10 0 1 22 2 1 0 0 0 0 0			
------------	---------------------------	--	--	--

PasserByVol:	0 0 0 0 0 0 0 0 0 0 0 0			
--------------	-------------------------	--	--	--

Initial Fut:	172 384 106 59 383 113 236 125 226 136 119 147			
--------------	--	--	--	--

User Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
-----------	---	--	--	--

PHF Adj:	0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.80			
----------	---	--	--	--

PHF Volume:	215 480 133 74 479 141 295 156 283 170 149 184			
-------------	--	--	--	--

Reducet Vol:	0 0 0 0 0 0 0 0 0 0 0 0			
--------------	-------------------------	--	--	--

Reduced Vol:	215 480 133 74 479 141 295 156 283 170 149 184			
--------------	--	--	--	--

PCE Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
----------	---	--	--	--

MLF Adj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
----------	---	--	--	--

Final Vol.:	215 480 133 74 479 141 295 156 283 170 149 184			
-------------	--	--	--	--

Saturation Flow Module:				
-------------------------	--	--	--	--

Sat/Lane:	1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900			
-----------	---	--	--	--

Adjustment:	0.92 0.97 0.83 0.92 0.97 0.83 0.92 0.97 0.83 0.92 0.89 0.89			
-------------	---	--	--	--

Lanes:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.45 0.55			
--------	---	--	--	--

Final Sat.:	1753 1845 1568 1753 1845 1568 1753 1845 1568 1753 757 935			
-------------	---	--	--	--

Capacity Analysis Module:				
---------------------------	--	--	--	--

Vol/Sat:	0.12 0.26 0.08 0.04 0.26 0.09 0.17 0.08 0.18 0.10 0.20 0.20			
----------	---	--	--	--

Crit Moves:	**** *** ****			
-------------	---------------	--	--	--

Green/Cycle:	0.14 0.36 0.36 0.06 0.29 0.29 0.19 0.26 0.26 0.14 0.22 0.22			
--------------	---	--	--	--

Volume/Cap:	0.90 0.71 0.23 0.71 0.90 0.31 0.90 0.32 0.69 0.69 0.90 0.90			
-------------	---	--	--	--

Delay/Veh:	63.2 22.7 15.6 53.2 42.5 19.9 54.5 21.1 27.9 36.3 51.0 51.0			
------------	---	--	--	--

User DelAdj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00			
--------------	---	--	--	--

AdjDel/Veh:	63.2 22.7 15.6 53.2 42.5 19.9 54.5 21.1 27.9 36.3 51.0 51.0			
-------------	---	--	--	--

DesignQueue:	7 13 3 3 14 4 10 5 8 6 5 6			
--------------	----------------------------	--	--	--

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Taylor Rd / Horseshoe Bar Rd

Cycle (sec):	70	Critical Vol./Cap. (X):	0.858
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	24.6
Optimal Cycle:	79	Level Of Service:	C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Split Phase	Split Phase	Protected	Protected
Rights:	Ovl	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	0 1 0 0 1	0 0 1! 0 0	1 0 0 1 0	1 0 0 1 0

Volume Module: >> Count Date: 2 Dec 2004 <<												
Base Vol:	50	6	445	2	31	8	4	353	58	567	419	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	50	6	445	2	31	8	4	353	58	567	419	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PHF Volume:	59	7	524	2	36	9	5	415	68	667	493	1
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	7	524	2	36	9	5	415	68	667	493	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	59	7	524	2	36	9	5	415	68	667	493	1

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.94	0.83	0.95	0.95	0.95	0.92	0.95	0.95	0.92	0.97	0.97
Lanes:	0.89	0.11	1.00	0.04	0.77	0.19	1.00	0.86	0.14	1.00	0.99	0.01
Final Sat.:	1593	189	1583	77	1386	347	1753	1552	254	1753	1841	4

Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.33	0.03	0.03	0.03	0.00	0.27	0.27	0.38	0.27	0.27
Crit Moves:	****			****			****		****	****		
Green/Cycle:	0.04	0.04	0.49	0.03	0.03	0.03	0.01	0.31	0.31	0.44	0.75	0.75
Volume/Cap:	0.86	0.86	0.68	0.86	0.86	0.86	0.36	0.86	0.86	0.86	0.36	0.36
Delay/Veh:	90.8	90.8	16.3	105.9	106	105.9	49.6	35.1	35.1	26.9	3.2	3.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	90.8	90.8	16.3	105.9	106	105.9	49.6	35.1	35.1	26.9	3.2	3.2
DesignQueue:	2	0	11	0	1	0	0	.12	2	16	5	0

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Taylor Rd / Horseshoe Bar Rd

Cycle (sec): 70 Critical Vol./Cap. (X): 0.872

Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 25.6

Optimal Cycle: 82 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Split Phase Split Phase Protected Protected

Rights: Ovl Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0

Volume Module: >> Count Date: 2 Dec 2004 <<

Base Vol: 50 6 445 2 31 8 4 353 58 567 419 1

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 50 6 445 2 31 8 4 353 58 567 419 1.00

Added Vol: 0 0 7 0 0 0 0 2 0 15 3 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 50 6 452 2 31 8 4 355 58 582 422 1

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85

PHF Volume: 59 7 532 2 36 9 5 418 68 685 496 0.85

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 59 7 532 2 36 9 5 418 68 685 496 1

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Vol.: 59 7 532 2 36 9 5 418 68 685 496 1

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.94 0.94 0.83 0.95 0.95 0.95 0.92 0.95 0.95 0.92 0.97 0.97

Lanes: 0.89 0.11 1.00 0.04 0.77 0.19 1.00 0.86 0.14 1.00 0.99 0.01

Final Sat.: 1593 189 1583 77 1386 347 1753 1553 253 1753 1841 4

Capacity Analysis Module:

Vol/Sat: 0.04 0.04 0.34 0.03 0.03 0.03 0.00 0.27 0.27 0.39 0.27 0.27

Crit Moves: **** * **** * **** * **** *

Green/Cycle: 0.04 0.04 0.49 0.03 0.03 0.03 0.01 0.31 0.31 0.45 0.75 0.75

Volume/Cap: 0.87 0.87 0.69 0.87 0.87 0.87 0.36 0.87 0.87 0.87 0.36 0.36

Delay/Veh: 95.5 95.5 16.3 111.3 111 111.3 49.8 37.0 37.0 28.1 3.2 3.2

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 95.5 95.5 16.3 111.3 111 111.3 49.8 37.0 37.0 28.1 3.2 3.2

DesignQueue: 2 0 11 0 1 0 0 12 2 16 5 0

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Taylor Rd / Sierra College Blvd

Cycle (sec): 75 Critical Vol./Cap. (X): 0.753
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.9
Optimal Cycle: 62 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Ovl Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes: 1 0 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0 1 0 1 0 1

Volume Module: >> Count Date: 2 Dec 204 <<

Base Vol: 179 231 118 21 379 100 70 191 71 205 183 13

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 179 231 118 21 379 100 70 191 71 205 183 13

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85

PHF Volume: 211 272 139 25 446 118 82 225 84 241 215 15

Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 211 272 139 25 446 118 82 225 84 241 215 15

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Vol.: 211 272 139 25 446 118 82 225 84 241 215 15

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.90 0.94 0.80 0.90 0.94 0.80 0.92 0.97 0.83 0.92 0.97 0.83

Lanes: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Sat.: 1702 1792 1523 1702 1792 1523 1753 1845 1568 1753 1845 1568

Capacity Analysis Module:

Vol/Sat: 0.12 0.15 0.09 0.01 0.25 0.08 0.05 0.12 0.05 0.14 0.12 0.01

Crit Moves: ****

Green/Cycle: 0.16 0.45 0.63 0.04 0.33 0.33 0.10 0.16 0.16 0.18 0.25 0.25

Volume/Cap: 0.75 0.34 0.14 0.34 0.75 0.23 0.47 0.75 0.33 0.75 0.47 0.04

Delay/Veh: 40.8 13.5 5.6 37.5 27.8 18.5 34.0 40.3 28.6 38.7 24.9 21.6

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 40.8 13.5 5.6 37.5 27.8 18.5 34.0 40.3 28.6 38.7 24.9 21.6

DesignQueue: 8 6 2 1 13 3 3 8 3 8 7 0

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Taylor Rd / Sierra College Blvd

Cycle (sec): 75 Critical Vol./Cap. (X): 0.753

Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.9

Optimal Cycle: 62 Level Of Service: C

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected

Rights: Ovl Include Include Include

Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Lanes: 1 0 1 0 1 1 0 1 0 1 1 0 1 0 1 1 0 1 0 1

Volume Module: >> Count Date: 2 Dec 204 <<

Base Vol: 179 231 118 21 379 100 70 191 71 205 183 13

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 179 231 118 21 379 100 70 191 71 205 183 13

Added Vol: 0 0 0 0 0 0 0 1 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Fut: 179 231 118 21 379 100 70 192 71 205 186 13

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85

PHF Volume: 211 272 139 25 446 118 82 226 84 241 219 15

Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Reduced Vol: 211 272 139 25 446 118 82 226 84 241 219 15

PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Vol.: 211 272 139 25 446 118 82 226 84 241 219 15

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

Adjustment: 0.90 0.94 0.80 0.90 0.94 0.80 0.92 0.97 0.83 0.92 0.97 0.83

Lanes: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Sat.: 1702 1792 1523 1702 1792 1523 1753 1845 1568 1753 1845 1568

Capacity Analysis Module:

Vol/Sat: 0.12 0.15 0.09 0.01 0.25 0.08 0.05 0.12 0.05 0.14 0.12 0.01

Crit Moves: **** **** **** ****

Green/Cycle: 0.16 0.45 0.63 0.04 0.33 0.33 0.10 0.16 0.16 0.18 0.25 0.25

Volume/Cap: 0.75 0.34 0.14 0.34 0.75 0.23 0.48 0.75 0.33 0.75 0.48 0.04

Delay/Veh: 40.9 13.6 5.6 37.5 27.8 18.5 34.2 40.3 28.5 38.8 24.9 21.5

User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

AdjDel/Veh: 40.9 13.6 5.6 37.5 27.8 18.5 34.2 40.3 28.5 38.8 24.9 21.5

DesignQueue: 8 6 2 1 13 3 3 8 3 8 7 0

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Taylor Road / Access

Average Delay (sec/veh): 14.4 (14.2) Worst Case Level Of Service: B

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
----------	--------------	--------------	-----------	-----------

Rights:	Include	Include	Include	Include
---------	---------	---------	---------	---------

Lanes:	0 0 0 1 0	0 1 0 0 0	0 0 0 0 0	0 0 1! 0 0
--------	-----------	-----------	-----------	------------

Volume Module:

Base Vol:	0 264	0 0	0 373	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Growth Adj:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00
Initial Bse:	0 264	0 0	0 373	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Added Vol:	0 0	13	1 0	0 0	0 0	0 0	0 0	0 0	27	0	3
PasserByVol:	0 0	0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Initial Fut:	0 264	13	1 373	0 0	0 0	0 0	0 0	0 0	27	0	3
User Adj:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00
PHF Adj:	0.90 0.90	0.90 0.90	0.90 0.90	0.90 0.90	0.90 0.90	0.90 0.90	0.90 0.90	0.90 0.90	0.90 0.90	0.90 0.90	0.90 0.90
PHF Volume:	0 293	14	1 414	0 0	0 0	0 0	0 0	0 0	30	0	3
Reduct Vol:	0 0	0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Final Vol.:	0 293	14	1 414	0 0	0 0	0 0	0 0	0 0	30	0	3

Critical Gap Module:

Critical Gp:xxxxx xxxx xxxx	4.1 xxxx xxxx xxxx xxxx xxxx	6.4 xxxx	6.2
FollowUpTim:xxxxx xxxx xxxx	2.2 xxxx xxxx xxxx xxxx xxxx	3.5 xxxx	3.3

Capacity Module:

Cnflict Vol: xxxx xxxx xxxx	308 xxxx xxxx xxxx xxxx xxxx	717 xxxx	301
Potent Cap.: xxxx xxxx xxxx	1242 xxxx xxxx xxxx xxxx xxxx	399 xxxx	744
Move Cap.: xxxx xxxx xxxx	1242 xxxx xxxx xxxx xxxx xxxx	399 xxxx	744

Level Of Service Module:

Stopped Del:xxxxx xxxx xxxx	7.9 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx		
LOS by Move: * * *	A * * * * * * * *		
Movement: LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.: xxxx xxxx xxxx	xxxx xxxx xxxx xxxx xxxx xxxx	418 xxxx	
Shrd StpDel:xxxxx xxxx xxxx	7.9 xxxx xxxx xxxx xxxx xxxx xxxx	14.4 xxxx	
Shared LOS: * * *	A * * * * * * B *		
ApproachDel: xxxxxxx	xxxxxx	xxxxxx	14.4
ApproachLOS:	*	*	B

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Taylro Road / Penryn Road

Average Delay (sec/veh): 22.2 (14.7) Worst Case Level Of Service: C

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign

Rights: Include Include Include Include

Lanes: 0 0 0 1 0 1 0 1 0 0 0 0 0 0 0 0 0 1! 0 0

Volume Module: >> Count Date: 16 Feb 2005 <<

Base Vol: 0 145 119 189 299 0 0 0 0 74 0 83

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 0 145 119 189 299 0 0 0 0 74 0 83

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90

PHF Volume: 0 161 132 210 332 0 0 0 0 82 0 92

Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol.: 0 161 132 210 332 0 0 0 0 82 0 92

Critical Gap Module:

Critical Gp:xxxxx xxxx xxxx 4.1 xxxx xxxx xxxx xxxx xxxx 6.4 xxxx 6.2

FollowUpTim:xxxxx xxxx xxxx 2.2 xxxx xxxx xxxx xxxx xxxx 3.5 xxxx 3.3

Capacity Module:

Cnflct Vol: xxxx xxxx xxxx 293 xxxx xxxx xxxx xxxx xxxx 979 xxxx 227

Potent Cap.: xxxx xxxx xxxx 1257 xxxx xxxx xxxx xxxx xxxx 275 xxxx 807

Move Cap.: xxxx xxxx xxxx 1257 xxxx xxxx xxxx xxxx xxxx 240 xxxx 807

Level Of Service Module:

Stopped Del:xxxxx xxxx xxxx 8.4 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

LOS by Move: * * * A * * * * * * * * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx 381 xxxx

Shrd StpDel:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 22.2 xxxx

Shared LOS: * * * * * * * * * * * * * * C *

ApproachDel: xxxxxx xxxxxx xxxxxx 22.2

ApproachLOS: * * * * * * * * C

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Unsigned Method (Future Volume Alternative)

Intersection #8 Taylro Road / Penryn Road

Average Delay (sec/veh): 22.5 (14.9) Worst Case Level Of Service: C

Approach:	North Bound		South Bound		East Bound		West Bound	
	L - T - R		L - T - R		L - T - R		L - T - R	
Movement:	-	-	-	-	-	-	-	-

Control:	Uncontrolled		Uncontrolled		Stop Sign		Stop Sign	
	Include		Include		Include		Include	
Rights:	-	-	-	-	-	-	-	-
Lanes:	0 0 0	1 0	1 0 0	0 0 0 0 0	0 0 0 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0

Volume Module: >> Count Date:	<<											
	16 Feb 2005	0	145	119	189	299	0	0	0	0	74	0
Base Vol:	0	145	119	189	299	0	0	0	0	74	0	83
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	145	119	189	299	0	0	0	0	1	0	0
Added Vol:	0	2	2	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	75	0	83
Initial Fut:	0	147	121	189	300	0	0	0	0	0	1.00	1.00
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	163	134	210	333	0	0	0	0	83	0	92
Reducet Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	163	134	210	333	0	0	0	0	83	0	92

Critical Gap Module:	<<										
	Critical Gp:xxxxx xxxx xxxx	4.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	6.4	xxxx
FollowUpTim:xxxxx xxxx xxxx	2.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	3.5	xxxx	3.3

Capacity Module:	<<									
	Cnflct Vol: xxxx xxxx xxxx	298	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	984	xxxx
Potent Cap.: xxxx xxxx xxxx	1252	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	273	xxxx	804
Move Cap.: xxxx xxxx xxxx	1252	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	238	xxxx	804

Level Of Service Module:	<<									
	Stopped Del:xxxxx xxxx xxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move: * * *	A	*	*	*	*	*	*	*	*	
Movement: LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT						
Shared Cap.: xxxx xxxx xxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	378	xxxxx	
Shrd StpDel:xxxxx xxxx xxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	22.5	xxxxx	
Shared LOS: * * *	*	*	*	*	*	*	*	*	*	
ApproachDel: xxxxxx	xxxxxx		xxxxxx		xxxxxx		xxxxxx	22.5		
ApproachLOS:	*		*		*		*	C		

daily

Sat Feb 26, 2005 14:07:28

Page 1-1

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Scenario Report

Scenario: daily
Command: Default Command
Volume: none
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: daily
Trip Distribution: current
Paths: Default Paths
Routes: Default Routes
Configuration: Default Configuration

daily

Sat Feb 26, 2005 14:07:28

Page 2-1

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Trip Generation Report

Forecast for daily

Zone	#	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
	3	Rivendale Su	49.00	sf res	4.78	4.79	234	235	469	77.3
	3	Rivendale Su	1.00	commercial	69.00	69.00	69	69	138	22.7
		Zone 3 Subtotal					303	304	607	100.0
		TOTAL					303	304	607	100.0



ex pm plus project

Sat Feb 26, 2005 14:05:20

Page 1-1

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Scenario: Scenario Report
ex pm plus project

Command: Default Command
Volume: ex pm
Geometry: existing
Impact Fee: Default Impact Fee
Trip Generation: pm peak hour
Trip Distribution: current
Paths: Default Paths
Routes: Default Routes
Configuration: Default Configuration

ex pm plus project

Sat Feb 26, 2005 14:05:20

Page 2-1

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Trip Generation Report

Forecast for pm peak

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
3	Rivendale Su	49.00	sf res	0.65	0.36	32	18	50	86.2
3	Rivendale Su	1.00	commercial	4.00	4.00	4	4	8	13.8
Zone 3 Subtotal						36	22	58	100.0
TOTAL						36	22	58	100.0

ex pm plus project

Sat Feb 26, 2005 14:05:20

Page 3-1

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Trip Distribution Report

Percent Of Trips current

Zone	To Gates									
	1	2	3	4	5	6	7	8	9	10
3	5.0	10.0	10.0	10.0	2.5	5.0	30.0	15.0	0.0	12.5

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Turning Movement Report
pm peak

Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
#1 Taylor Road / King Road													
Base	285	289	128	27	246	74	64	101	272	119	82	30	1717
Added	0	26	0	1	16	1	2	0	0	0	0	1	47
Total	285	315	128	28	262	75	66	101	272	119	82	31	1764
#2 Taylor Rd / Horseshoe Bar Rd													
Base	103	6	455	10	5	9	8	465	131	354	420	5	1971
Added	0	0	17	0	0	0	0	4	0	11	3	0	35
Total	103	6	472	10	5	9	8	469	131	365	423	5	2006
#3 Taylor Rd / Sierra College Blvd													
Base	110	551	234	64	339	151	129	395	139	200	333	78	2723
Added	0	0	1	0	0	0	0	4	0	0	2	0	7
Total	110	551	235	64	339	151	129	399	139	200	335	78	2730
#4 Taylor Road / South Access													
Base	0	0	0	0	0	0	0	693	0	0	611	0	1304
Added	0	0	0	0	0	0	0	4	0	0	3	0	7
PassBy	10	0	15	0	0	0	0	-15	15	10	-10	0	25
Total	10	0	15	0	0	0	0	682	15	10	604	0	1336
#5 Taylor Road / North Access													
Base	0	0	0	0	0	0	0	693	0	0	611	0	1304
Added	0	0	0	0	0	0	0	4	0	0	3	0	7
PassBy	5	0	5	0	0	0	0	-5	5	5	-5	0	10
Total	5	0	5	0	0	0	0	692	5	5	609	0	1321
#6 Taylor Road / Access													
Base	0	270	0	0	175	0	0	0	0	0	0	0	445
Added	0	0	29	7	0	0	0	0	0	18	0	4	58
Total	0	270	29	7	175	0	0	0	0	18	0	4	503
#7 Sierra College Blvd / King Road													
Base	0	0	0	0	0	0	0	0	0	0	0	0	0
Added	0	0	0	2	0	0	0	0	0	0	0	1	3
Total	0	0	0	2	0	0	0	0	0	0	0	1	3
#8 Taylro Road / Penryn Road													
Base	0	245	25	82	134	0	0	0	0	41	0	159	686
Added	0	2	2	0	4	0	0	0	0	4	0	0	12
Total	0	247	27	82	138	0	0	0	0	45	0	159	698

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIESImpact Analysis Report
Level Of Service

Intersection

#	Intersection	Base			Future			Change in
		Del/ LOS	Veh	C	Del/ LOS	Veh	C	
# 1	Taylor Road / King Road	C	26.0	0.720	C	26.2	0.732	+ 0.240 D/V
# 2	Taylor Rd / Horseshoe Bar Rd	C	27.2	0.853	C	28.5	0.870	+ 1.330 D/V
# 3	Taylor Rd / Sierra College Blvd	C	34.2	0.890	C	34.4	0.893	+ 0.198 D/V
# 6	Taylor Road / Access	A	0.0	0.000	B	12.0	0.000	+ 0.000 V/C
# 8	Taylro Road / Penryn Road	B	13.4	0.000	B	13.7	0.000	+ 0.000 V/C

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Taylor Road / King Road

Cycle (sec):	70	Critical Vol./Cap. (X):	0.720
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	26.0
Optimal Cycle:	57	Level Of Service:	C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Protected Include	Protected Include	Protected Include	Protected Include
Rights:				
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 0 1	1 0 1 0 1	1 0 1 0 1	1 0 0 1 0

Volume Module: >> Count Date: 2 Dec 2004 <<												
Base Vol:	285	289	128	27	246	74	64	101	272	119	82	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	285	289	128	27	246	74	64	101	272	119	82	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	317	321	142	30	273	82	71	112	302	132	91	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	317	321	142	30	273	82	71	112	302	132	91	33
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	317	321	142	30	273	82	71	112	302	132	91	33

Saturation Flow Module:											
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.83	0.92	0.97	0.83	0.92	0.97	0.83	0.92	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.73
Final Sat.:	1753	1845	1568	1753	1845	1568	1753	1845	1568	1753	1300

Capacity Analysis Module:												
Vol/Sat:	0.18	0.17	0.09	0.02	0.15	0.05	0.04	0.06	0.19	0.08	0.07	0.07
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.25	0.42	0.42	0.04	0.21	0.21	0.14	0.27	0.27	0.10	0.24	0.24
Volume/Cap:	0.72	0.42	0.22	0.42	0.72	0.25	0.30	0.23	0.72	0.72	0.30	0.30
Delay/Veh:	29.7	14.8	13.3	36.7	32.5	23.7	27.9	20.2	29.3	43.4	22.4	22.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.7	14.8	13.3	36.7	32.5	23.7	27.9	20.2	29.3	43.4	22.4	22.4
DesignQueue:	10	8	3	1	9	3	2	3	9	5	3	1

**EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES**

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Taylor Road / King Road

Cycle (sec): 70 Critical Vol./Cap. (X): 0.732
Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 26.2

Optimal Cycle: 58 Level Of Service: C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 0 1	1 0 1 0 1	1 0 1 0 1	1 0 0 1 0

Volume Module: >> Count Date: 2 Dec 2004 <<

Base Vol:	285	289	128	27	246	74	64	101	272	119	82	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	285	289	128	27	246	74	64	101	272	119	82	30
Added Vol:	0	26	0	1	16	1	2	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	285	315	128	28	262	75	66	101	272	119	82	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	317	350	142	31	291	83	73	112	302	132	91	34
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	317	350	142	31	291	83	73	112	302	132	91	34
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	317	350	142	31	291	83	73	112	302	132	91	34

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.97	0.83	0.92	0.97	0.83	0.92	0.97	0.83	0.92	0.93	0.93
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.27
Final Sat.:	1753	1845	1568	1753	1845	1568	1753	1845	1568	1753	1288	481

Capacity Analysis Module:

Vol/Sat:	0.18	0.19	0.09	0.02	0.16	0.05	0.04	0.06	0.19	0.08	0.07	0.07
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.25	0.42	0.42	0.04	0.22	0.22	0.14	0.26	0.26	0.10	0.23	0.23
Volume/Cap:	0.73	0.45	0.21	0.45	0.73	0.25	0.31	0.23	0.73	0.73	0.31	0.31
Delay/Veh:	30.5	14.8	13.0	37.4	32.4	23.1	28.0	20.5	30.1	44.7	22.7	22.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	14.8	13.0	37.4	32.4	23.1	28.0	20.5	30.1	44.7	22.7	22.7
DesignQueue:	10	8	3	1	9	3	2	3	9	5	3	1

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Taylor Rd / Horseshoe Bar Rd

Cycle (sec): 70 Critical Vol./Cap. (X): 0.853
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 27.2
 Optimal Cycle: 78 Level Of Service: C

Approach:	North Bound		South Bound		East Bound		West Bound	
	L - T - R		L - T - R		L - T - R		L - T - R	

Movement:	L - T - R		L - T - R		L - T - R		L - T - R	
Control:	Split Phase		Split Phase		Protected		Protected	
Rights:	Ovl		Include		Include		Include	
Min. Green:	0 0 0		0 0 0		0 0 0		0 0 0	
Lanes:	0 1 0	0 1	0 0 1	0 0 0	1 0 0	1 0 0	1 0 0	1 0 0 1 0

Volume Module: >> Count Date: 2 Dec 2004 <<												
Base Vol:	103	6	455	10	5	9	8	465	131	354	420	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	6	455	10	5	9	8	465	131	354	420	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	114	7	506	11	6	10	9	517	146	393	467	6
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	7	506	11	6	10	9	517	146	393	467	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	114	7	506	11	6	10	9	517	146	393	467	6

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.94	0.83	0.91	0.91	0.91	0.92	0.94	0.94	0.92	0.97	0.97
Lanes:	0.94	0.06	1.00	0.41	0.22	0.37	1.00	0.78	0.22	1.00	0.99	0.01
Final Sat.:	1675	103	1583	706	385	642	1753	1391	393	1753	1818	23

Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.32	0.02	0.02	0.02	0.01	0.37	0.37	0.22	0.26	0.26
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.11	0.11	0.37	0.02	0.02	0.02	0.01	0.44	0.44	0.26	0.68	0.68
Volume/Cap:	0.61	0.61	0.85	0.85	0.85	0.85	0.38	0.85	0.85	0.85	0.38	0.38
Delay/Veh:	35.0	35.0	31.6	134.6	135	134.6	43.8	26.8	26.8	38.8	4.9	4.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.0	35.0	31.6	134.6	135	134.6	43.8	26.8	26.8	38.8	4.9	4.9
DesignQueue:	4	0	13	0	0	0	0	0.12	4	12	6	0

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Taylor Rd / Horseshoe Bar Rd

Cycle (sec):	70	Critical Vol./Cap. (X):	0.870
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	28.5
Optimal Cycle:	82	Level Of Service:	C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Split Phase	Split Phase	Protected	Protected
Rights:	Ovl	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	0 1 0 0 1	0 0 1! 0 0	1 0 0 1 0	1 0 0 1 0

Volume Module: >> Count Date: 2 Dec 2004 <<
Base Vol: 103 6 455 10 5 9 8 465 131 354 420 5
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 103 6 455 10 5 9 8 465 131 354 420 5
Added Vol: 0 0 17 0 0 0 0 4 0 11 3 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 103 6 472 10 5 9 8 469 131 365 423 5
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 114 7 524 11 6 10 9 521 146 406 470 6
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 114 7 524 11 6 10 9 521 146 406 470 6
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Final Vol.: 114 7 524 11 6 10 9 521 146 406 470 6

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.94 0.94 0.83 0.91 0.91 0.91 0.92 0.94 0.94 0.92 0.97 0.97
Lanes: 0.94 0.06 1.00 0.41 0.22 0.37 1.00 0.78 0.22 1.00 0.99 0.01
Final Sat.: 1675 103 1583 706 385 642 1753 1394 391 1753 1818 23

Capacity Analysis Module:
Vol/Sat: 0.07 0.07 0.33 0.02 0.02 0.02 0.01 0.37 0.37 0.23 0.26 0.26
Crit Moves: **** * **** * **** *
Green/Cycle: 0.11 0.11 0.38 0.02 0.02 0.02 0.01 0.43 0.43 0.27 0.68 0.68
Volume/Cap: 0.60 0.60 0.87 0.87 0.87 0.87 0.38 0.87 0.87 0.87 0.87 0.68
Delay/Veh: 34.2 34.2 33.0 142.1 142 142.1 44.0 28.7 28.7 40.5 4.9 4.9
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 34.2 34.2 33.0 142.1 142 142.1 44.0 28.7 28.7 40.5 4.9 4.9
DesignQueue: 4 0 14 0 0 0 0 13 4 12 6 0

**EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES**

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 Taylor Rd / Sierra College Blvd

Cycle (sec): 75 Critical Vol./Cap. (X): 0.890
 Loss Time (sec): 12 (Y+R = 4 sec) Average Delay (sec/veh): 34.2
 Optimal Cycle: 90 Level Of Service: C

Approach:	North Bound	South Bound	East Bound
Movement:	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Protected
Rights:	Ovl	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 0 1	1 0 1 0 1	1 0 1 0 1

Volume Module: >> Count Date: 2 Dec 2004 <<												
Base Vol:	110	551	234	64	339	151	129	395	139	200	333	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	110	551	234	64	339	151	129	395	139	200	333	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	122	612	260	71	377	168	143	439	154	222	370	87
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	612	260	71	377	168	143	439	154	222	370	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	122	612	260	71	377	168	143	439	154	222	370	87

Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Adjustment:	0.90	0.94	0.80	0.90	0.94	0.80	0.92	0.97	0.83	0.92	0.97	0.83
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1702	1792	1523	1702	1792	1523	1753	1845	1568	1753	1845	1568

Capacity Analysis Module:												
Vol/Sat:	0.07	0.34	0.17	0.04	0.21	0.11	0.08	0.24	0.10	0.13	0.20	0.06
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.11	0.38	0.53	0.05	0.32	0.32	0.12	0.27	0.27	0.14	0.29	0.29
Volume/Cap:	0.66	0.89	0.32	0.89	0.66	0.34	0.69	0.89	0.37	0.89	0.69	0.19
Delay/Veh:	40.2	35.4	10.4	100.7	24.6	19.8	41.1	44.4	22.9	61.6	27.3	20.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.2	35.4	10.4	100.7	24.6	19.8	41.1	44.4	22.9	61.6	27.3	20.2
DesignQueue:	5	17	5	3	11	5	5	14	5	8	12	3

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Taylor Rd / Sierra College Blvd

Cycle (sec):	75	Critical Vol./Cap. (X):	0.893
Loss Time (sec):	12 (Y+R = 4 sec)	Average Delay (sec/veh):	34.4
Optimal Cycle:	91	Level Of Service:	C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Protected	Protected	Protected	Protected
Rights:	Ovl	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	1 0 1 0 1	1 0 1 0 1	1 0 1 0 1	1 0 1 0 1

Volume Module: >> Count Date: 2 Dec 2004 <<

Base Vol:	110	551	234	64	339	151	129	395	139	200	333	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	110	551	234	64	339	151	129	395	139	200	333	78
Added Vol:	0	0	1	0	0	0	0	4	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	110	551	235	64	339	151	129	399	139	200	335	78
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	122	612	261	71	377	168	143	443	154	222	372	87
Reducet Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	122	612	261	71	377	168	143	443	154	222	372	87
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	122	612	261	71	377	168	143	443	154	222	372	87

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.94	0.80	0.90	0.94	0.80	0.92	0.97	0.83	0.92	0.97	0.83
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1702	1792	1523	1702	1792	1523	1753	1845	1568	1753	1845	1568

Capacity Analysis Module:

Vol/Sat:	0.07	0.34	0.17	0.04	0.21	0.11	0.08	0.24	0.10	0.13	0.20	0.06
Crit Moves:	****	****	****	****	****	****	****	****	****	****	****	****
Green/Cycle:	0.11	0.38	0.52	0.05	0.32	0.32	0.12	0.27	0.27	0.14	0.29	0.29
Volume/Cap:	0.66	0.89	0.33	0.89	0.66	0.34	0.69	0.89	0.37	0.89	0.69	0.19
Delay/Veh:	40.4	35.8	10.5	101.6	24.7	19.9	41.2	44.6	22.8	62.2	27.3	20.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.4	35.8	10.5	101.6	24.7	19.9	41.2	44.6	22.8	62.2	27.3	20.1
DesignQueue:	5	17	5	3	11	5	5	14	5	8	12	3

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Unsigned Method (Future Volume Alternative)

Intersection #6 Taylor Road / Access

Average Delay (sec/veh): 12.0 (110) Worst Case Level Of Service: B

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 1 0	0 1 0 0 0	0 0 0 0 0	0 0 1! 0 0

Volume Module: >> Count Date: 16 Feb 2005 <<											
Base Vol:	0 270 0	0 175 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Initial Bse:	0 270 0	0 175 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Added Vol:	0 0 29	7 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	18 0 0	0 0 0	4 0 0
PasserByVol:	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Initial Fut:	0 270 29	7 175 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	18 0 0	0 0 0	4 0 0
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
PHF Adj:	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90	0.90 0.90 0.90
PHF Volume:	0 300 32	8 194 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	20 0 0	0 0 0	4 0 0
Reduc Vol:	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Final Vol.:	0 300 32	8 194 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	20 0 0	0 0 0	4 0 0

Critical Gap Module:

Critical Gp:xxxxx xxxx xxxx	4.1 xxxx xxxx xxxx xxxx xxxx	6.4 xxxx 6.2
FollowUpTim:xxxxx xxxx xxxx	2.2 xxxx xxxx xxxx xxxx xxxx	3.5 xxxx 3.3

Capacity Module:

Cnflict Vol: xxxx xxxx xxxx	332 xxxx xxxx xxxx xxxx xxxx	526 xxxx 316
Potent Cap.: xxxx xxxx xxxx	1216 xxxx xxxx xxxx xxxx xxxx	516 xxxx 729
Move Cap.: xxxx xxxx xxxx	1216 xxxx xxxx xxxx xxxx xxxx	513 xxxx 729

Level Of Service Module:

Stopped Del:xxxxx xxxx xxxx	8.0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx	
LOS by Move: * * *	A * * * * * * * *	
Movement: LT - LTR - RT	LT - LTR - RT LT - LTR - RT LT - LTR - RT	
Shared Cap.: xxxx xxxx xxxx	xxxx xxxx xxxx xxxx xxxx xxxx xxxx	542 xxxx
Shrd StpDel:xxxxx xxxx xxxx	8.0 xxxx xxxx xxxx xxxx xxxx xxxx xxxx	12.0 xxxx
Shared LOS: * * *	A * * * * * * * B	*
ApproachDel: xxxxxx	xxxxxx	12.0
ApproachLOS:	*	B

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #8 Taylro Road / Penryn Road

Average Delay (sec/veh): 13.4 (11.9) Worst Case Level Of Service: B

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 1 0	1 0 1 0 0	0 0 0 0 0	0 0 1! 0 0

Volume Module: >> Count Date: 16 Feb 2005 <<										
Base Vol:	0 245	25	82	134	0	0	0	41	0	159
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0 245	25	82	134	0	0	0	0	41	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0 272	28	91	149	0	0	0	0	46	0
Reduc Vol:	0 0	0	0	0	0	0	0	0	0	0
Final Vol.:	0 272	28	91	149	0	0	0	0	46	0
										177

Critical Gap Module:										
Critical Gp:xxxxx xxxx xxxx	4.1	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	6.4	xxxx	6.2
FollowUpTim:xxxxx xxxx xxxx	2.2	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	3.5	xxxx	3.3

Capacity Module:										
Cnflct Vol: xxxx xxxx xxxx	300	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	617	xxxx	286
Potent Cap.: xxxx xxxx xxxx	1250	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	450	xxxx	748
Move Cap.: xxxx xxxx xxxx	1250	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	425	xxxx	748

Level Of Service Module:										
Stopped Del:xxxxx xxxx xxxx	8.1	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
LOS by Move: * * *	A	*	*	*	*	*	*	*	*	*
Movement: LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT						
Shared Cap.: xxxx xxxx xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	647	xxxx	
Shrd StpDel:xxxxx xxxx xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	13.4
Shared LOS: * * *	*	*	*	*	*	*	*	*	*	*
ApproachDel: xxxxxxx	xxxxxxxx								B	*
ApproachLOS: *	*									
								13.4		
									B	

EXISTING PLUS PROJECT
5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 Taylro Road / Penryn Road

Average Delay (sec/veh): 13.7 (Z.1) Worst Case Level Of Service: B

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R

Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 1 0	1 0 1 0 0	0 0 0 0 0	0 0 1! 0 0

Volume Module: >> Count Date: 16 Feb 2005 <<
Base Vol: 0 245 25 82 134 0 0 0 0 41 0 159
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 245 25 82 134 0 0 0 0 41 0 159
Added Vol: 0 2 2 0 4 0 0 0 0 4 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 247 27 82 138 0 0 0 0 45 0 159
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 0 274 30 91 153 0 0 0 0 50 0 177
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 274 30 91 153 0 0 0 0 50 0 177

Critical Gap Module:

Critical Gp:xxxxx xxxx xxxx 4.1 xxxx xxxx xxxx xxxx xxxx 6.4 xxxx 6.2
FollowUpTim:xxxxx xxxx xxxx 2.2 xxxx xxxx xxxx xxxx xxxx 3.5 xxxx 3.3

Capacity Module:

Cnflict Vol: xxxx xxxx xxxx 304 xxxx xxxx xxxx xxxx xxxx 625 xxxx 289
Potent Cap.: xxxx xxxx xxxx 1245 xxxx xxxx xxxx xxxx xxxx 445 xxxx 745
Move Cap.: xxxx xxxx xxxx 1245 xxxx xxxx xxxx xxxx xxxx 420 xxxx 745

Level Of Service Module:

Stopped Del:xxxxx xxxx xxxx 8.1 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
LOS by Move: * * * A * * * * * * * *
Movement: LT - LTR - RT
Shared Cap.: xxxx 637 xxxx
Shrd StpDel:xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 13.7 xxxx
Shared LOS: * * * * * * * * * * * * B *
ApproachDel: xxxxxx xxxxxx 13.7
ApproachLOS: * * * * * * * * * * * * B

2020 PLUS PROJECT

5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Taylor Road / Access

Average Delay (sec/veh): 24.8 *24.3* Worst Case Level Of Service: CApproach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - RControl: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 1! 0 0

Volume Module:

Base Vol:	0	264	0	0	373	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71
Initial Bse:	0	451	0	0	638	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	13	1	0	0	0	0	0	0	0	27	0	0	3	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	451	13	1	638	0	0	0	0	0	0	27	0	0	3	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	502	14	1	709	0	0	0	0	0	0	30	0	0	3	0
Reduc Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	502	14	1	709	0	0	0	0	0	0	30	0	0	3	0

Critical Gap Module:

Critical Gp:xxxxx xxxx xxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxx	6.4	xxxx	6.2						
FollowUpTim:xxxxx xxxx xxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxx	3.5	xxxx	3.3						

Capacity Module:

Cnflict Vol: xxxx xxxx xxxx	516	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxx	1220	xxxx	509						
Potent Cap.: xxxx xxxx xxxx	1040	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxx	201	xxxx	568						
Move Cap.: xxxx xxxx xxxx	1040	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxx	201	xxxx	568						

Level Of Service Module:

Stopped Del:xxxxx xxxx xxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxx						
LOS by Move: * * *	A	*	*	*	*	*	*	*	*	*						
Movement: LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT						
Shared Cap.: xxxx xxxx xxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxx	215	xxxx				
Shrd StpDel:xxxxx xxxx xxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxx	24.8	xxxx				
Shared LOS: * * *	A	*	*	*	*	*	*	*	*	*	C	*				
ApproachDel: xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	24.8					
ApproachLOS:	*	*	*	*	*	*	*	*	*	*	C					

$$\mu = \frac{33}{215} = .153$$

$$\rho_0 = .847 \quad \rho \leq 0 \quad 0.847 \\ (1) = .129 \quad (1) \quad 0.977$$

2020 PLUS PROJECT

5896-01 RIVENDALE COMMUNITIES

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 Taylor Road / Access

Average Delay (sec/veh): 16.2 (14.3) Worst Case Level Of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - RControl: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 1 0 0Volume Module: >> Count Date: 16 Feb 2005 <<
Base Vol: 0 270 0 0 175 0 0 0 0 0 0 0 0 0 0 0
Growth Adj: 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71 1.71
Initial Bse: 0 462 0 0 299 0 0 0 0 0 0 0 0 0 0 0
Added Vol: 0 0 29 7 0 0 0 0 0 0 0 18 0 0 4
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 462 29 7 299 0 0 0 0 0 0 18 0 0 4
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90 0.90
PHF Volume: 0 513 32 8 333 0 0 0 0 0 0 20 0 0 4
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 513 32 8 333 0 0 0 0 0 0 20 0 0 4

Critical Gap Module:

Critical Gp:xxxxx xxxx xxxx 4.1 xxxx xxxx xxxx xxxx xxxx 6.4 xxxx 6.2
FollowUpTim:xxxxx xxxx xxxx 2.2 xxxx xxxx xxxx xxxx xxxx 3.5 xxxx 3.3

Capacity Module:

Cnflct Vol: xxxx xxxx xxxx 545 xxxx xxxx xxxx xxxx xxxx 877 xxxx 529
Potent Cap.: xxxx xxxx xxxx 1014 xxxx xxxx xxxx xxxx xxxx 321 xxxx 553
Move Cap.: xxxx xxxx xxxx 1014 xxxx xxxx xxxx xxxx xxxx 320 xxxx 553

Level Of Service Module:

Stopped Del:xxxxx xxxx xxxx 8.6 xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
LOS by Move: * * * A * * * * * * * * * *
Movement: LT - LTR - RT
Shared Cap.: xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 346 xxxx
Shrd StpDel:xxxxx xxxx xxxx 8.6 xxxx xxxx xxxx xxxx xxxx xxxx 16.2 xxxx
Shared LOS: * * * A * * * * * * * C *
ApproachDel: xxxxx xxxxxx 16.2
ApproachLOS: * * * * C

